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INDIAN ECONOMICS

Volume I

by

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PREFACE

The existing capitalist world-order has had its hey-day, and is now everywhere subjected to trenchant criticism. The present world-war has pushed the problem to front and the question of a new world-order is on everybody's lips. Whatever may be the outcome of this devastating warfare that has enveloped the whole civilized universe to-day, one thing is certain that post-war world-economy is bound to undergo certain significant adjustments, the character and extent of which, however, would be determined by the nature of forces that would emerge victorious and powerful out of this deadly conflict. But so much is definite that the basis of all this readjustment and reconstruction is going to remain national rather than international. And it is in the context of this national background, that the present work on the economic problems of India has been planned and written by its authors.

We are conscious of the fact that within recent years there has come out a growing literature on the subject of our economic problems. It is a healthy development and an index of our increasing interest in the most fundamental problems that face the nation. Still the present authors do not feel in the least apologetic for making one more addition to the existing literature, as they claim the following special features for the present volume.

First, the book is designed not only to serve the examination needs of an average University student in India but also those of a general reader interested in the study of our economic problems. The whole work is so planned that the reader may develop a realistic grasp of and insight into the existing economic situation in the country and develop a truly scientific approach in the matter. We have deliberately avoided much detailed statistics that hardly benefits either a student or a general reader and have given

only that which was barely necessary to give some exactness to thought and conviction of argument.

Secondly it has been our attempt to emphasise all along that economic problems of India cannot be isolated from one another and any effective solution of them is dependent upon treating them as one integral unit. Any effort to solve any one or a few of the problems in an un-co-ordinated way is sure to prove fruitless as the past experience has also shown. Hence a co-ordinated nation-wide planning of our economic life as part of our planning of the whole national life is the first necessity.

Thirdly, an intelligent reading of the present work would leave the student fully convinced that India suffers from no inherent weakness either in the matter of human or natural resources so far as the problem of her economic development is concerned and her present backwardness is ultimately attributable to the only one factor of our present political status. Hence we have, even at the cost of repetition, hammered the point again and again that the economic ills of India cannot be solved unless and until we become the masters of our own destiny and a really national and democratic government is established in the country.

It is hardly necessary to mention that we have freely made use of all the standard books and other literature, foreign and Indian as well as Government publications existing on the subject and we acknowledge our gratitude to their writers and authors for the help so received from them.

The authors would think their purpose fulfilled to the extent the present work succeeds in creating a real love for and correct understanding of the economic life in India amongst its readers.

Barcilly,
1st December, 1943.

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CHAPTER I.

Introduction.

To start with it is necessary to consider whether Indian Economics has a claim to be considered a separate Science. There are two schools of thought having divergent view on this point. The classical school of Economists is definitely of opinion that principles of Economics are universal in their operation and therefore those who follow the classical school of Economics declare that whether we take India, Arabia, Africa, Britain or U.S.A., the principles of economics operate in the same way. In their opinion it is absurd to talk of Indian Economics or African Economics. It is said that economic problem of no country can be segregated from those of the rest. Some writers have gone to the extent of calling the term Indian Economics "uncouth, infelicitous and misleading." Thus according to the classical school of Economic thought there is no scope for considering Indian Economics as a separate science.

There is another school of Economic thought named "Historical School" headed by "List" the German economist who think that the laws of Economics are not universal in their operation; but there is a relativity of economic doctrines. The physical environments and their characteristics, the social institutions of a country, its history and traditions, the outlook and psychology of its people, its culture, are the factors which modify the so-called universal laws of Economics. For instance Free trade was considered beneficial to British industries in the last part of the nineteenth century and the same policy was adopted by the British Government in India. How injurious, harmful and ruinous it proved to the Indian industry is an admitted fact? What

is good in the economic interests of a certain country may be against the interests of the other. To consider what is good in the economic interests of a country, its particular and special circumstances should be taken into account and studied. Accordingly Indian Economics undoubtedly has a claim to be studied as an independent subject. Because though on the whole the Economic Principles are of universal applicability based on certain fundamental assumption of human nature, still in relation to particular countries their operation does tend to be modified by the particular social psychological, and other conditions prevailing there.

There is thus no reason why anybody should wonder at "Indian Economics" when already terms like 'English Political Economy' or 'British Economics' and National Economics of Ireland are being used for study of economic problems of special interest to Britain or Ireland. In fact in every country special attention is being paid to study its economic problems and solve them.

Definition of Indian Economics.

After having decided that Indian Economics can be treated as an independent subject it becomes necessary to define it. The term Indian Economics may have several meanings.

(a) In the first place it may be regarded as a history of Indian Economic thought from Vedic times to the present day. There is ample evidence to show that ancient Indian Scholars developed a systematic body of thought which they called the science of wealth—(Varta). This may be an interesting study to make. The economic ideas of ancient scholars are scattered in works on Arthshastra (Brihaspat and Chanakya) in Mahabharat, Munismriti and other works on Niti. But there is a long gap and no continuous record of economic thought is available unless we arrive to

the present days. The study and research of Ancient economic thought may be very illuminating but the true import of the term is something different. In Indian Economics we do not study such a problem. Here we are not concerned with the past history but, with living economic problems of India with a view to solve them.

(b) The term "Indian Economics" may also mean an explanation of economic principles with Indian illustration. But this is far from correct.

(c) Indian Economics may also be regarded as a novel set of economic principles different from those current in the west. This view is based on the assumption that Indian Society and conditions are so fundamentally opposed to western society and conditions that the basic assumptions of economics are entirely inapplicable in this country. But Indian Economics is not intended to expound any new economic principles. In fact a new Economics can not be evolved out of Indian facts. Only principles of Economics are modified in their operation by the social and psychological conditions and peculiar circumstance obtained in India.

The true meaning of Indian Economics.

Indian Economics is a study of the principal economic problems in India, their probable causes, and measures that may be taken to solve them. In Indian Economics we have to study the special circumstances—social and political and their effect on the economic life of India, special conditions which prevail in the country and the economic problems with which we are faced and which await solution. In studying Indian Economic conditions we will have to keep in mind that ours is a developing country industrially much less advanced than the countries of the west, her problems are different from those obtaining

in industrially advanced countries. In Europe and America custom as such does not exert any powerful influence on economic life, but here in India in certain cases it is a dominant factor. The social institutions in India such as caste system, joint family and the laws of inheritance are very powerful modifying influences. The climate and other physical characteristics of India have also influenced the economic life in India in a different way than that of other countries.

In studying the main economic problems of India one cannot help criticising and measuring the tremendous influence of Government's policy on the economic life of this country. In fact political dependence of India is the most powerful factor which adversely affects the economic life of this country. An unsympathetic and irresponsible alien Government has been a great stumbling-block in India's economic advancement.

The study of Indian Economic conditions reveals that there are powerful political, social, and physical factors which give a different colour to Indian economic problems. Therefore the problems of India are peculiarly its own and a *systematic study of these problems with a view to solve them is the scope of Indian Economics.*

"In short we can define Indian Economics as a study of present economic problems of India, their causes and remedies, from the national point of view."

Beginning of Indian Economics:—With the establishment of British rule in India on a firm footing, the rulers began to treat India as a fruitful field for legitimate economic exploitation. They adopted the policy of 'plantations' towards India, that is every effort was made to transform India, into vast plantation producing raw materials for British industries and to dump the British goods in Indian

markets. In adopting such a policy they professed to be guided by the universal principles of political economy as expounded by the dominant school of English economists. They conveniently forgot that the laws of political economy are hypothetical in character. Because free trade was good for Britain it was considered good for India also. Because *Laissez-faire* policy was best suited to British conditions it was adopted in India as well, in spite of the fact that the spirit of private enterprise was very little developed in India.

This policy was attacked by Indian Politicians and Economists. Dadabhai Nowroji, Dinsha Wacha, Rameshchandra Dutta, G. Subramania Iyer and others were the chief critics of Governments' policy of economic exploitation. They contended that Government policy in economic matters did not serve the true interests of India, that Indian interests are sacrificed for promoting British interests. They emphasised that economic drain entailed by this policy of Government should be stopped, and fiscal, land revenue, and currency systems, should be reformed in the interests of India.

Though these students of the economic conditions of India had glimpses of the primary causes of India's poverty and economic backwardness but it was the master-mind of Ranade which could clearly see the whole position in all its bearings. He proved that many of the basic assumptions of dogmatic Political Economy were inapplicable to India, and the state should not ignore the peculiarities of Indian conditions. In his 'Essays on Indian Economics' he wrote the following words as a protest against the blind imitation in India of the economic policy found suitable in the entirely different environment of nineteenth century England. "As these assumptions (enlightened individualism, free competition, mobility of labour and capital etc.,) do not

absolutely hold good of even the most advanced societies, it is obvious that in a society like ours, they are chiefly conspicuous by their absence. With us an average individual man is to, a large extent, the very antipodes of the economical man. The family and the caste are more powerful than the individual in determining his position in life. Self-interest in the shape of the desire of wealth is not absent, but it is not the only, nor principal motto. The pursuit of wealth is not the only ideal aimed at. There is neither the desire nor the aptitude for free and unlimited competition except within certain predetermined groups. Custom and state regulation are far more powerful than competition, and status more decisive in its influence than contract. Neither capital nor labour is mobile, and enterprising and intelligent enough to shift from place to place. Wages and profits are fixed, and not elastic and responsive to change of circumstances. Population follows its own law, being cut down by disease and famine, while production is almost stationary, the bumper harvests of one year being needed to provide against the uncertainties of alternate bad seasons. In a society so constituted, the tendencies assumed as axiomatic, are not only inoperative, but are actually deflected from their proper direction. You might as well talk of mountains to be washed away into the sea, or of the valleys to fill up, or the sun to get cold, as reasons for our practical conduct within a measurable distance of time." Therefore he pleaded for a departure from the time-honoured maxims of the rigid economic science and for the initiation of Indian Political Economy reinforced with the latest theories *e.g.* the doctrine of relativity and preferring the claim of collective welfare to individual interests.

Ranade did a great service to his country by putting forward this protest. His work resembles to that of Friedrich List who in his 'National System of Political Economy,

protested emphatically against the dogmas and the so-called universal truth of classical 'Political Economy'.

There is no doubt that Ranade did a great service by giving prominence to the special requirement of India according to its circumstances and the degree of economic development. But the times have changed since then and there is little justification for the opinion that is sometimes advanced even to-day that hardly any assumptions of Political Economy are applicable to Indian conditions and the principles of Economics do not merely need a little modification here and there but they cease to be serviceable in India altogether. In fact economic conditions in India have changed during the last half century and they are becoming akin to those in the western countries. Moreover Economic Science has also ceased to claim universal validity for its laws. It has become more practical and human by modifying its assumptions.

The Chief Economic Problem of India.

India has enormous natural resources, but they are not fully developed and utilised. There is over preponderance of agriculture in economic life of the Nation. More than 80 p.c. of the population depends on agriculture, which is a very uncertain and depressed industry, resulting in the starvation and abject poverty of a large percentage of Indian population.

Her industries are not developed in spite of the fact that she has immense resources, a vast home-market, a cheap labour supply and capital. It is due to unsympathetic attitude of the state, comparative inefficiency of Indian labour, bad organisation and lack of enterprise. Whatever industries in India have been developed most of them are foreign owned and foreign managed. Not only that foreign capital has come in India but foreign capitalists

have also established themselves in India thus creating powerful vested interest which are likely to be prejudicial to the political progress of India.

Thus the main economic problem of India is the problem of poverty and which is the result of economic backwardness and which can only be solved by adopting a programme of planned economic reconstruction of this country, thereby developing agriculture and industries and establishing a balance between the two. In the following pages we will study the causes and cure of the economic ills of India.

CHAPTER II.

Physical Environment and Natural Resources.

Man is a creation of his environments. A group of people can only prosper, increase, grow powerful, when their environment supplies them abundance of food and other necessary things of life. Every man whether he may be rich or poor civilised or uncivilized, resident of cold climates or warm latitudes, requires food, clothes, house, fuel, luxuries, tools, and materials of industry which enable him to produce and handle the others. All the above mentioned things are produced directly or indirectly from land. Thus nature determines to a very great extent the occupation of people, their mode of living, and their habits, and therefore we will first study natural environments of India.

India, excluding Burma comprises an area of 15,42,332 sq. miles. It measures 2,000 miles from north to south and 2,500 miles from east to west. It is shut off from the Asiatic mainland by the lofty Sulaiman ranges to the North-west, and on the north by the still loftier Hindu-kush, and the Himalayas, while the Arabian Sea and the Bay of Bengal wash its western and eastern sides respectively.

India occupies a very favourable situation for purposes of international commerce, standing almost at the centre of the eastern Hemisphere and at the head of Indian Ocean, she commands all the sea routes for trade between the old and the new world—towards Africa and Europe; to the west Australia and Pacific Islands in the south—China, Japan and America in the east. The Himalayas have handicapped her land routes for trade by shutting up the northern boundary, but still a considerable amount of foreign trade by land goes on through passes in north-west.

The coast line of India in spite of its great length—more than 3,000 miles has very few inlets and islands. The continental shelf of the country is shallow and the shores are usually flat and sandy. Because of these reasons India has few good ports and harbours. Most of the inlets and straits of India are shallow and permit navigation when they are made deep by dredging operations.

The Natural Regions.—India presents three distinct natural divisions, each of which is unlike the others—(1) The mountain regions of the north. (2) The Indo Gangetic plain. (2) The Deccan tableland.

1. The mountain regions of the north consist of two parts (*a*) The Himalayas and (*b*) the north-west borderland. The Himalayas run for 2,000 miles from the eastern extremity of Assam to the western limits of Kashmir with a breadth varying from 180 to 220 miles and contain some of the highest peaks in the world.

The Himalayan series of parallel ranges act as a natural protective wall for India and provides rain water for northern plains by checking the south-west monsoon winds. During winter it saves India from piercing cold winds, of Central Asia. It gives birth to mighty rivers like Indus, Ganges, Brahmaputra, and their innumerable tributaries. The lesser and outer Himalayas are very rich in forest wealth. Physical difficulties do not allow agriculture except in the lesser Himalayas where cultivation is carried on.

The North-west borderland includes the mountainous tract of N.-W.F. Province and Baluchistan. The region is crossed by certain important trade routes which connect India with central Asia. Otherwise this part of India is poor and dry.

2. **The Indo-Gangetic plain.**—It occupies the greater part of India and covers more than 2,000 miles

from east to west with a width of 200 miles. In fact it is the basin of the Gangese, the Indus, the Brahmaputra with their innumerable tributaries. It is the richest part of India having very fertile soil, favourable climate, flat surface rendering the construction of roads and railways less expensive and very easy, a net work of snow-fed rivers, and rich mineral deposits. The rivers irrigate the plains and some of them are great carriers of commerce.

3. The Deccan.—It consists of the whole peninsular India that lies within the tropics. It is bounded on three sides by mountains—on the north by the Vindhya and Satpura ranges, on the west by the western Ghats, on the east by the eastern Ghats. Two coastal strips of flat land exist on both the sides of the western and the eastern Ghats. The surface of the peninsula is generally uneven and rocky with more or less forest clad hill peaks and ranges and it affords many contrasts in vegetation and scenery. As the general slope of the tableland is from west to east, most of the rivers flow in Bay of Bengal. The peninsular-rivers are all rain-fed, and therefore become dry in the dry-season. This is why the rivers of peninsula are neither useful for irrigation purposes nor as carriers of commerce. The surface being uneven and rocky construction of roads and railways is more difficult and expensive.

Climate.—India is a vast country. In such a vast territory of land one cannot expect the same type of climate everywhere. In India one can find plains covered with luxuriant vegetation and also dry, barren and desolate land. The student of Economics must study its climate as agriculture, the single most important Industry of India absolutely depends upon climate.

For climatic purposes it is useful to divide India into two parts—Peninsular India and Northern India. Penin-

sular-India has the characteristics of Tropical climates, the temperature is high and the variation of temperature between summer and winter is small. Northern India lies beyond the Tropic of cancer. In this region climatic conditions are never similar in all the places. The western-side is very hot during summer and very cold during winter. Air is generally devoid of moisture. But in the eastern side winter is mild and summer is hot. Air is full of moisture.

These climatic conditions are disturbed by the monsoon winds. There are two monsoon currents—(1) The South-west monsoon, blowing from sea to land which contributes nearly 90% of the total rainfall in India and reaches the country into two currents the Arabian Sea current and the Bay of Bengal current. (2) The North-east Monsoon which gives a little water in winters.

In hot months of the year (that is April, May, June, July and August) the temperature goes up very high. It reaches as high as 110°F . to 120°F . The pressure on the land decreases and winds begin to blow towards land from Indian Ocean. In the last week of May the Trade winds of Indian Ocean proceed northwards and spread over the Arabian Sea and the Bay of Bengal. These winds approach the eastern and western shores of India by the middle of June. The Arabian Sea monsoon crosses the western Ghats and thus enters the Indian Peninsula. While crossing the western Ghats it deposits heavy rainfall on the western slope of the western Ghats. It gives moderate rainfall to Deccan and C.P. and then meets the Bay of Bengal monsoon current in Bengal and Assam. One branch of the Arabian Sea monsoon goes northwards and travels over Kathiawar, Sindh and Rajputana. But in these hot tracts there being no high mountain range facing the wind and the temperature being very high it rises up and does not give any rain to these tracts.

The Bay of Bengal monsoon current after being obstructed by Arakans and the Shillong plateau (Meghalaya) in the east and the Himalayas on the north, proceeds westwards up the Gangetic plain and causes copious rainfall in Assam, Bengal, Bihar and U.P. As both the Arabian Sea monsoon and the Bay of Bengal monsoon meet in Bengal and Assam these provinces experience very heavy rainfall. In the months of July and August Northern India experiences good rainfall in September it decreases and in early October the rainy season comes to an end. During this month the south-west monsoon begins to retreat from Northern India and the retreat is complete by the middle of December. This retreating monsoon gives more or less general rain on the coastal districts of Madras and over the eastern half of the Peninsula.

The North-east wind begins in January and lasts till March. At this period stormy winds blow from a belt of high pressure west of Mediterranean Sea and cross eastward to Persia and Northern India. It deposits light rain in North-western India. This rainfall though scanty (2 to 5 inches) is very important for Kharif crops. Another cold wind current after crossing the eastern Himalayas moves towards the Madras coast and Ceylon and gives rain to these areas.

The average annual rainfall in India is 42 inches but variations from this normal rainfall are surprisingly great. Again the distribution of rainfall in India depends largely on the physical features. On the western slope of the western Ghats 100 inches rainfall is experienced. But in the interior it decreases. It varies between 15 to 30 inches in Deccan Peninsula. In C.P., U.P., and Central India rainfall varies from 25 to 45 inches. In eastern part of Bengal and Assam the average rainfall is 65 inches the rest of Bengal experiences 55 inches, and Bihar gets 45 inches of

rainfall. In Northern India rainfall decreases from east to west. In Punjab rainfall is scanty the eastern part of Punjab gets 20 inches but the western part gets 6 inches only. Western Rajputana and adjoining part of Sindh get less than 5 inches of rainfall.

The economic importance of rainfall in India is of the highest order inasmuch as agriculture in India mostly depends on rainfall. The prosperity of India mostly depend upon the success or failure of monsoon. The year monsoon fails in any part of India the crops fail and famine occurs. The tract suffers untold misery and suffering. It has been well said "Agriculture in India is a gamble in rains". In fact the whole economic system of the country is rudely shaken if agriculture crops in India fail and good rains are imperative for successful agriculture in India.

In India, the rainy season is on the whole regular but the rains are very uncertain as regards quantity. In some years rains are heavy and in others there is a general decrease of rainfall. No one can say definitely about the rains in India. In some years the rainy season ends earlier when agriculture requires more water.

Some Indian Provinces always get abundant rain some never get more than an inch or two, whilst over large areas the rainfall is extremely uncertain. "It is not the average rainfall of any province, but the deviation from normal average, together with its timely distribution that may cause disaster." A deficiency in the expected rainfall causes famine, too much rains spoils the crop, whilst early or late arrival of the monsoon may spoil the harvest.

Rainfall is certain in those tracts which experience heavy annual rainfall—East Bengal, Assam, West Malabar Coast, the western coastal strip, and the upper valley of Narbada. The zones of uncertain rainfall include those

areas where the average annual rainfall is less—United Provinces, Rajputana, Eastern Ghats, South and West Hyderabad, Mysore and some parts of Bihar and Orissa. The existence of these zones of uncertain rainfall has been the cause of Indian famines.

To protect these areas of uncertain rainfall and to provide water for agriculture crops in Punjab, Sindh and other dry parts of India gigantic irrigation works have been constructed in this country.

Soils in India.—In India rapid succession of geological formations are to be found. Some of the geological formations are absent while others are not very prominent. Moreover the rainfall also does not vary too sharply from district to district except in the neighbourhood of Himalayas and the western Ghats. Therefore over wide tracts, rocks and soils are subject to more or less to the same amount of leaching by water. This uniformity of geological structure of the country and the character of climate over wide areas thus combine to produce an appearance of uniformity of soils. But this appearance is deceptive. Whenever classification of soils from agricultural point of view has been carried out pronounced variations have been detected not only in uplands but also in plains.

The following are the predominant types of soils found in India.

The "Red" Soils of the crystalline Tract.—These soils are found in almost the whole of Madras, Mysore, and the South-east of Bombay and extend through the east of Hyderabad and C.P. to Orissa, Chota-Nagpur and the South of Bengal. The rocks of the same series are exposed throughout the whole of Bundelkhand and the North-western India. They also occur the whole length of Himalayas and are found in parts of Assam.

These soils possess great variations in character. They differ in consistency, depth, and fertility. Their gravelly, and light coloured soils of upland are poor; and deep dark coloured soils of low levels are rich and fertile. As a rule soils of this class are deficient in nitrogen, phosphoric acid, and humus, but potash and lime are sufficient.

The Black Cotton or Regur Soil.—These soils cover the whole of the Deccan trap and large tracts in Bellary, Kurnool, Cuddapah, Coimbatore and Tinnevely districts of Madras. The Deccan trap consists of the whole of Bombay Presidency, Berar, Western C.P. and Hyderabad. It covers nearly 2,00,000 sq. miles of area. The soils throughout this area vary to a considerable extent in character and productivity. There are the thin soils of the slopes and uplands of the lower trap hills which are moderately productive in years of good monsoon. In the broken country between the hills and plains occur deeper and dark-coloured soils which are constantly improved by the washings from the higher levels and are very rich and productive. These soils are very tenacious of moisture. They conserve the rain water and become extremely sticky when wet. This capacity of preserving moisture enables them to produce cotton crop without irrigation. In these soils Phosphoric acid, nitrogen and organic matter are generally deficient but potash and lime are sufficient. On the whole these soils are rich and fertile.

The Alluvial Soils.—From agricultural point of view these soils are the most important in India. The most extensive alluvial tract is that of vast Indo-Gangetic plain, which comprises the greater part of Sindh, Northern Rajputana, the greater part of Punjab, the United Provinces, Bihar, Bengal and half of Assam. These soils are also found along the coasts of Indian Peninsula. The area of this tract is 300,000 sq. miles and its width varies from

300 miles in the west to less than 90 miles in the east. The maximum thickness of the deposits has never been ascertained but the few borings show that the depth exceeds 1,600 feet below the surface.

Alluvial soils can be irrigated with great advantage and with moderate well distributed rainfall are capable of growing a wide variety of crops as the depth of the soils secures great fertility. The amount of nitrogen and organic matter in these soils are low. Potash is adequate and Phosphoric acid is less deficient than in other Indian soils.

The laterite Soils:—This rock is found as a cap on the summits of hills and plateaus of central India and along the Eastern and Western Ghats. It is also found in Assam. The laterite soils show wide divergence in character. Those found on the higher levels are very thin and gravelly with little power to retain moisture. Therefore their agricultural value is small. The soils of the valleys and lower levels are dark coloured, heavy loams, and clay which retain moisture and are capable of producing quite good crops. In laterite soils Potash, Nitrogen, Phosphoric Acid and lime are deficient but humus is found in higher quantities.

From the above brief survey of Indian soils one can find out that the deficiency of combined Nitrogen is the limiting factor throughout India and the problem of manure is reduced to the simple problem of supplying combined nitrogen to the Indian land.

Deterioration of Soils.—There has been a long-standing controversy whether soils in India are undergoing a progressive decline in fertility. There is no doubt that large areas have been rendered unfit for cultivation by the formation of injurious salts, and by erosion caused by running water during last seven or eight decades, and in

certain areas where forests have been recently cleared off and on which deep layers of decayed vegetation provide natural accretion of nitrogen. Such land when first cleared is far richer than other lands. Unless freely manured it must show for many years annual decline in fertility as crops are harvested every year. Moreover growing pressure of population on land with the rapid increase in India's population has forced the cultivators to bring under cultivation new and inferior land. In such cases a decrease in the average outturn must occur. The growing density of population may also lead to a diminution in the number of periodical fallows, and to an increase in the area of cultivated land in relation to available supplies of manure, and thus the soil may deteriorate. In fact all these causes are operating in India during the last hundred years and this is why that soils in certain areas have shown the signs of decline in fertility. Nobody can deny this:

The controversy ranges round the fact whether long cultivated agricultural land is to-day suffering a growing diminution in the capacity to yield crops as a result of the removal, year after year of those substances which are essential for the growth and development of crops.

Sufficient data is not available on the point and it will require a thorough enquiry to establish the theory that land is progressively deteriorating in fertility or otherwise. The Royal Agricultural Commission have given their verdict in the following words "so far as we have been able to ascertain, no evidence of progressive soil deterioration can be deduced from settlement reports, or from these in comparison with such earlier records as exist." Mr. W. H. Moreland in his book—*India at the death of Akbar*—has set forth much of the valuable information regarding crop production during the reign of that ruler sums up the posi-

tion in these words. . . . "it is highly probable that the land which was already under cultivation at that period has under similar conditions given an approximately constant returns; and clear and positive evidence would be needed to establish the fact that a decline has occurred over the bulk of the old established cultivation."

The Agricultural Adviser to the Government of India while giving his evidence before the commission said "Most of the area under cultivation in India has been under cultivation for hundreds of years, and has reached its state of maximum impoverishment many years ago. So that no further deterioration is possible."

When land is cropped year after year and no manure is added to the land a stabilised condition is reached where natural gains balance the loss of plant food material which is removed by the crop and ordinarily no changes are to be expected in the yield of crops. According to agricultural commission an overwhelming proportion of Agricultural lands in India long ago reached such a condition. A balance has been established and no further deterioration is likely to take place under existing conditions of cultivation.

Unless sufficient data is available it is difficult to be very dogmatic on this point but everybody admits that Indian soils are capable of giving much higher yields if they are properly manured, managed and cultivated.

The soils of India are rich, though little of the nitrogen removed is returned to the soils in form of manure yet they are maintained at a low but stable level of fertility as a result of increase of nitrogen which accrue from natural recuperative process in the soil. Thus the fertility of Indian soils can be enhanced by proper manuring and management of land.

Forest Wealth in India.

Before the dawn of civilisation in the days of pre-meaval man, the greater part of the habitable globe was covered with dense forests. With the development of social life and the evolution of man, the first great onslaught on the forests began and still go on with the same fury in some cases. But while the development of the modern civilisation has had the effect of destroying the forests, at the same time the modern industrial civilisation is dependent on the produce of forests for its existence. For the upkeep of the modern civilisation the forest produce is more urgently required than before. The inhabitants of the metropolitan cities are more dependent on the produce of the forests than any aboriginal savage.

The preservation of forests is not necessary only because they are the suppliers of enormous wealth, but because their effect is far-reaching. The careless destruction of forests on mountain slopes is a great danger to the inhabitants on the plains below. The free flow of water causes erosion and denudation, resulting in land slips, tremendous floods silting and destruction of the fertile valleys. Man becomes helpless, the agriculture industry suffers, and millions of people (as in China) became homeless. Forests exercise beneficial effect on climate and temperature. The trees transpire enormous quantities of water every day which reduces the temperature of atmosphere in hot climates. Forests are believed to induce a heavier rainfall. In India destruction of forests has been accompanied by uncertain and on the average less rainfall. Moreover the importance of forests in the regulation and conservation of water supply is well recognised. Roots of forest trees make the soil porous and the whole Forest area becomes a vast sponge, sucking up the surplus moisture of the rainy season, and thus raising the sub-soil water level.

of the earth. In an agricultural country like India where a continuous supply of water in the streams and in wells is a great necessity; the existence of forests is of utmost importance.

In an agricultural country like India agriculturists are directly dependent on the forest produce. The greatest need of the Indian peasant is cheap supply of fire-wood. The dearth of fire-wood in villages which are far away from the forest areas necessitates the burning of manure that is cattle dung. The plantation of forest plots in villages can solve the problem so important for the agriculture Industry.

India had enormous forest wealth even before the advent of British-rule. Later on, the rapid growth of population resulted in increased demand of timber for railways and many other uses, a fierce onslaught was commenced on the Indian forests. The result was that many of the valuable forests were destroyed.

After mutiny forests were protected from destruction and forest departments were established to administer and develop them.

India is rich in forest which cover more than one-fifth of the total area of the country. Throughout this vast area there is a variety in the types of vegetations, depending on variations of climate and soils and on other local factors.

Area of Forests Lands.

Province.	Area of Province sq. miles.	Forest area sq. miles.	P. C. of forest area to whole area of the Province.
Madras	125,163	15,245	12.2%
Bombay	76,127	12,998	17.1
Sind	47,138	1,157	2.5
Bengal	76,960	10,803	14.0
U.P.	106,014	5,251	4.9
Punjab	95,315	4,842	5.1
Bihar	69,257	1,786	2.6
Orissa	32,179	1,985	6.2
C.P.	98,445	19,413	19.7
Assam	55,445	21,393	38.6
N.-W.F.P. ..	13,184	282	2.1
Baluchistan ..	46,974	813	1.7
Ajmer	2,767	142	5.1
Coorg	1,593	839	52.7

Broadly speaking there are five kinds of forests in India.

Arid Country Forests:—These forests extend over the dry tracts of Sind, Rajputana, South of Punjab and

part of Baluchistan. The most important tree of these forests is "Babul".

Deciduous Forests:—In these forests most of the trees are leafless for a portion of the year. These forests are found in Sub-Himalayan tract, and the Peninsular India. The following are the most important varieties of trees in these forests:—Sal, Teak, Sissu, Haldu, Khair. (It is the basis of Kutch Kattha industry) Babul and other important and useful trees.

(3) Evergreen Forests:—They occur in regions of very heavy rainfall such as west coast of Peninsula, and the Eastern Sub-Himalayan region. These forests have great variety of luxuriant vegetation. The important trees are bamboos, palm, ferus, India rubber and cane.

(4) Mountain Forests:—In these forests vegetation differs according to elevation and rainfall. The central and north-western Himalayan forests have the same kind of vegetation (they lie in the United Provinces, Punjab, Kashmir, and N.-W.F.P.). These forests are the most important suppliers of valuable timbers. Deodar, Pine, Spruce and Silver-fir being the most important.

In the Eastern Himalayas and Assam forests are full of oak, magnolia and laurels, while in Assam pine trees grow abundantly.

(5) Littoral Forests:—Occur on the sea coasts and along tidal Creeks. The most characteristic trees belong to the mango family.

Indian forests play an important part as suppliers of raw materials for various industries. The forest produce is divided into two main heads: (1) Major-produce *i.e.*, timber and fire-wood and (2) Minor produce *i.e.*, comprising all products such as lac, tanning materials, essential

oils, terpentine, resin, grasses and herbs etc. They also are a store house of an inexhaustible supply of fodder. Millions of Cattle graze every year in these forests. Besides this annual grazing they supply baled grass to famine-stricken areas. Still enormous quantities of fodder goes to waste in Indian forests because no use can be made of this grass in the neighbourhood of the forests and it cannot be transported to distant parts owing to high transportation charges.

The annual production of timber in India is 220 million cubic feet and much of it is exported. Important timbers include Deodar, sal, rosewood, padauk, mahogany and teak. Indian forests provide employment to a large number of people such as woodcutters, sawyers, carters, carriers, and craftsman.

There are many industries which are dependent on forest produce, which get their raw material from these forests. But full use for industrial purposes has not yet been made of Indian forests. If Indian forests are properly developed and tapped and full industrial use is made of forest produce many more industries can be developed in India. The following are the industries which derive their raw material supplies from forests.

(1) Paper Industry in India uses Sabai, baib, and bhabhar grasses which are obtained from the forest of Bengal, Chota-Nagpur, Orissa, Nepal, and U.P. Bamboo has become an important raw material of paper industry during the recent years and is obtained from Eastern Himalayan forests and Assam. Spruce and Silver-fir are found abundantly in the mountain forests in India but owing to transport difficulties they are not used at all.

(2) Pine-Resin Industry depends on the pine tree which is found in the mountain forests.

(3) Lac is secreted by a type of insects which feeds on the saps of certain trees. These trees are abundant in Bihar, C.P., Bengal, Assam, U.P., Orissa and the Punjab. Chota-Nagpur in Bihar raises 60 p.c. of India's total. Only 2 p.c. of the production is consumed in India the rest is exported. It is mainly used in Gramophone records, Polish and Varnish, electric insulation, hat-stiffening, lithographic ink, ceiling wax etc.

(4) Kattha and cutch is manufactured from Khair a tree commonly found in India.

(5) **Tanning Materials**—Myrobalans a fruit of a tree found in abundance is a great tonic in tanning industry. The alkali of myrobalans is useful for preparing dyes. Haldu and Babul bark is also an important tanning material.

(6) **Match**:—For match industry spruce and silver-fir are most suitable but they are found on higher mountains and therefore are not available and hence simal tree is used which is commonly found in northern India. The soft timber of Sundarbans is also used for match industry.

A brief account of the forests in India clearly brings out the fact that India possesses an inexhaustible forest wealth. But one feels the lack of forest industries. The main reason is that Indian forests are inaccessible. The question of bringing timber and other materials from forests to the roads, railway, or river that leads to the place of utilisation is the main problem of Indian forest industry. At present two methods are employed (1) employment of bullocks, and elephants as carriers of forest produce, and (2) timber-rafts are floated down the rivers during monsoon months to be dragged again from water at the saw mills. In other advanced countries railways, rope-ways, tramways, roads, and water-ways have been developed to tap

the forests. The development of forest industries in India will await the development of transportation facilities in the forests.

In order to find out industrial use of forest produce the Government of India has established the forest research institute at Dehra Dun which is engaged in (1) finding out suitable woods for air craft construction (2) producing cheap printing paper, (3) discovering indigenous woods suitable for use as battery separators.

The potentiality of Indian forests is enormous but they are not being properly developed and utilised. In future industrial planning of India forests should be fully utilised for national purposes.

Mineral Resources.

India is rich in minerals. In recent years much progress has been made in the survey of mineralised area and many new regions are being found out. The average annual value of minerals exceeds Rs. 20 crores.

Principal-Minerals.

Coal	Magnesite
Manganese ore	Gypsum
Gold	Fuller's-earth
Mica	Bauxite
Petroleum	Diamonds.
Building materials	Silver
Salt	Tungsten ore
Copper ore	Graphite
Iron ore	Asbestos
Saltpetre	Felspar
Chromite	

There is hardly any mineral which is not found in India and if proper efforts are made, the mining industry

In the Southern parts of India various igneous rocks of Madras, and granites of North Arcot and Mysore are used. In Bombay, Hyderabad, and Central Provinces basal is quarried while other parts of C.P. use Vindhyan sand-stone.

Marble is extensively found in Vindhyan region is the best material for building purposes. Jabulpore, Betul, Nagpur and Chindwara in the Central Provinces and the white and pink marbles of Jodhpur, Krishangarh and Ajmer (Rajputana) are famous throughout India. The Makrana quarries in Jodhpur supplied marble for the Taj at Agra and Victoria Memorial at Calcutta, Jaisalmer, Mewar, and Jaipur States of Rajputana also produce fine types of white, yellow, and black marbles.

Slates are quarried in the outer Himalayas in Punjab, the United Provinces, and Bihar.

In spite of the fact that India possesses such fine types of building stones Italian marble is imported. The transportation difficulties and the high freight rates are the main causes of their limited use.

Glass making materials—Good quality sand is a most important raw material of glass-industry. It occurs in Mangal Hat and Patraghatta (Rajmahal hills) Lohra, and Bargarh (near Allahabad) Saukhada and the river Pidhamli (Baroda) Jabulpore (C.P.) and many other places. Another important ingredient is soda. Lime is also used.

Cement materials—Some Indian limestones fortunately contain all chemical elements, and those in nearly correct proportions necessary to make high grade Portland cement. Other limestones require addition of clayey material and even gypsum during processes involved. It is

found in Katni (C.P.) Dwarka (Kathiawar) Japla (Dalton-gunj) Banmore (Gwalior) and Shahabad (Hyderabad state). Alumina is also required for rapid setting cement. There is a possibility of a considerable extension of this industry in India on account of great natural resources of both limestone and bauxite.

Clays :—Large quantities of fireclay for manufacture of fire-bricks and other refractory materials is obtained in Bihar and Orissa specially on the coalfields, China clay for manufacture of fine pottery and earthenware is found in Bihar, Orissa, Jubbulpore (C.P.) Mysore, Madras, and Delhi. Fuller's-earth is mined in Mysore, Rajputana and C.P.

Cobalt :—Occurs in Khetri etc. (Jaipur-Rajputana) also rich deposits in Nepal.

Power-Resources.

In India coal is the most important mineral in respect of value and quantity. India occupies the eighth place in the world as regards coal production. Although coal is the principal source of mechanical power in India but there are certain drawbacks associated with the industry. Indian coal is generally poor in quality. Its fuel properties are definitely lower than European or American Coal. With the exception of Jharia-coal Indian coals have usually high proportion of moisture and ash. Again the coalfields are very unevenly distributed. More than 98 p.c. of the total output comes from the lower Godwana coalfields (Bihar, Bengal, Orissa, C.P. and Hyderabad). It is totally absent in many provinces and very deficient in others. Being a bulky commodity it cannot easily be transported at a low cost. The coalfields are not situated either near the coast or in the valleys of navigable rivers. Thus Indian coal cannot be transported by water and railway trans-

portation means very high freight. Transportation difficulty has been the main limiting factor of the industry.

In 1937 Government of India appointed the coal committee. It estimated the total coal reserves of India at 54,000 million tons out of which 1,426 million tons is good quality coal which is suitable for "manufacturing hard coke" used in metallurgical industries. Thus at the present rate of wastage and consumption the superior coal will be exhausted in less than hundred years. The method employed in raising coal from mines are so defective that nearly 50 per cent. is lost in the mines. National interests demand better methods of mining and conservation of superior coal supplies. Jharia coal region is the main supplier of superior coal and with improved methods of mining and control of fires in the mines they can last for hundred years more.

Geologically the coalfields of India may be divided into two classes (a) The Godwana system extending from Bengal, Bihar, Orissa, to Hyderabad including C.I. and C.P. (b) the tertiary beds found in Assam, Baluchistan, Punjab and Rajputana.

Godwana Belt.

Provinces.

Fields.

Bengal	.. Raniganj.
Bihar & Orissa	.. Jharia, Bokaro, Girdih, Rajmahal hills, Palamau, Talchar, Rampur (partly in the Sambhalpur district and partly in the Raigarh State in C.P., Ramgarh, North and South Karanpura.)
Central India	.. Umaria Sohagpur (Rewa) Singrauh.

*Provinces.**Fields.*

Central Provinces .. Mohipani, Shahpur, Pench-Valley,
Warora, Yeotmal, Ballalpur (or
Sasti fields).

Hyderabad .. Sasti, Tandur, and Singareni.

Tertiary Belt.

Assam .. Nazira, Makum.

Baluchistan .. Sor Range and Mech, Khost.

Punjab .. Shahpur, Mainwali, Jhelum.

Rajputana .. Bikaner.

Most of the coal is consumed in India itself. 32 p.c. is consumed by Railways, 24.5 p.c. by Iron and Steel works, 16 p.c. by Industries and 16 p.c. is consumed by small industries and householders. Recently soft coke industry has developed to provide comparatively smokeless domestic fuel. It is made of low-grade inferior coal and its increasing use will discourage waste of cow-dung (fertiliser).

Coal distillation by-product industry is relatively less important in India than in more highly industrialised countries partly due to imports from foreign countries at comparatively low prices. Important industries are the production of coal-tar for road making, Sulphate of Ammonia, manufacture of paints, phenols etc.

In fact Raniganj, Jharia, Bokaro and Karanpura are the largest producers of coal in India. They supply nearly 90 p.c. of total annual output. Superior coal suitable for making hard coke for metallurgical industries is very limited and therefore it should not be used for any other purpose than Iron and Steel manufacturing. It has been estimated that ordinary coal will suffice for a little more than 350 years.

The inferior quality of Indian coal, and the unequal distribution of coal-fields necessitate the importation of coal from U.K., Natal, Portuguese East Africa, Japan and Australia. The western part of India cannot conveniently bring Bengal and Bihar coal because of high cost of transportation. Moreover railway wagons are not always available for the movement of coal to distant places.

The export trade in coal has declined due to the competition of Australian, South African, and Japanese coal. Recently a coal-grading Board has been found to maintain the standard of coal so that overseas buyers may rely on the material supplied to them.

Petroleum.

The separation of Burma from India in 1935 has caused a great decline in the annual output of petroleum in India. Burma and India together produce less than 1 p.c. of world's petroleum supply. India's output is insignificant in comparison to its growing demand of petroleum. Burma headed the list with five times the annual production of India. Even Burma's supply are quite insufficient for India and hence large supplies are imported from abroad.

There are two distinct oil-bearing areas on either side of the Himalaya. The one on the east and by far the most important is Assam, the other on the west comprises the Punjab, Baluchistan, N.-W. Frontier Province and Sind.

The eastern oil-bearing belt stretches from the extreme north-east of Assam to the eastern borders of Brahmaputra and Surma valleys. The Digboi fields in the Lakhimpur district of Upper Assam is the most important oil producing field in India. An upto date refinery has been established to distil the crude-oil.

The western oil bearing belt covers the Punjab, Baluchistan, N.-W.F. and Sind. The only important producing field in this area is Khaur in the Punjab which supplies more than 6 million gallons annually. A refinery has been opened at Rawalpindi 43 miles from Khaur. A new field has been discovered near Khaur in Dhulian.

Before the separation of Burma the annual average production was little over 300 million gallons. Now the output has come down to near about 70 millions 95 p.c. of which is supplied by Assam fields. India imports nearly 300 million gallons of petroleum annually from Iran, U.S.A., Borneo, Burma and Russia.

Hydro-Electricity.

✓ The annual production of electricity in India is little above 2,500 million units. "The consumption of electricity per capita in India, is therefore, a little over 7 units at the most. This shows that in the scale of civilization India comes quite as low as China or Abyssinia as far as production of electricity is concerned." (*M. N. Shah*).

India has very good prospects for the development of water-power. Indeed India promises to be one of the leading Countries in the world with regard to the development of hydro-electric power and great strides in this direction have already been made. But even then India produces only 3 p.c. of her available water-power and the rest is allowed to run waste.

Electricity generated with the help of water-power is cheaper and more efficient than the steam power. The steam power makes it absolutely necessary for the modern industries to concentrate near the Coal mines because transportation of coal to distant places is difficult and expensive. Nearly all the important industrial Centres have sprung up near the Coalfields. This concentration

of industries has given rise to various problems, such as over-crowded cities, insanitary condition, housing problem, and migration of rural population towards industrial centres. Moreover the enormous quantities of smoke which the tall chimneys of the factories puff out in continuous streams pollutes the atmosphere of the industrial centre. But electricity has no such evils, moreover it can be easily transmitted even to a distance of over 100 miles without making it dear. Therefore it is not likely that Hydro-electric plants will attract the factories where they are established. In future electricity may revolutionise large scale production by decentralising the industries.

It is necessary here to explain that the power obtainable in any case is proportional to the product of the weight of water used and the heights through which it falls in the pipes leading to the turbine wheels. Thus 1,000 lbs. of water flowing under a head or height of 100 feet generate the same total amount of power as 100 lbs. of water flowing under a head of 1,000 feet or 10,000 lbs. under 10 feet. It is immaterial whether the water flows quickly or slowly.

Water-power schemes are generally difficult in India, because the power needs to be continuous while the rainfall in India is seasonal. Hence costly storage works are indispensable. The heavy Capital cost makes electric power comparatively dear. There is however one way of bringing down high cost of electricity generated by water in India. Irrigation can be effectively combined with the use of water for the generation of electricity, as its passing through the turbines does not in anyway render it unfit for irrigation purposes.

Hydro-electric schemes have developed in Bombay, Mysore, Kashmir, Punjab, U.P. and Madras. Western

India has practically no coal, but this is compensated by the possession of magnificent hydro-electric power resources in the ghats. In mountain parts of India and in the Peninsula where coal is not available Hydro-electric works have been established.

There are 3 kinds of Hydro-cléctric plants in India (1) Those plants which supply power to the Industrial centres, (2) Those plants which generate elcctricity from canal water. (3) Those plants which have been established to electrify the hill stations.

The following are the important Hydro-electric works in India :—

In the western Ghats of the Bombay Presidency there are three great hydro-electric power stations developed respectively at Lonawala, Andhra Valley, and Nila-Mula. The Lonawala works are situated at the top of Bhore Ghats where the rain water is stored in the three lakes, namely Lonawala, Walwan, and Shirawata from where it is conveyed by canals and through pipes to Khopoli power-house at the foot of Ghats for generating power. The Andhra Valley Power Supply Company is situated at Bhivpuri on the Andhra River where a reservoir has been constructed by a dam across the river. To the south-east of Bombay on the Nila-Mula river a great hydro-electric scheme has been developed at Bhira. Late Sir J. N. Tata the famous industrial genius of India conceived the idea of generating electricity from water and in fact the first scheme (Lonawala) was his creation. Later on through the enterprise of Tata and Sons all these three works were developed and completed.

These works provide electricity to all the Bombay factories and textile mills, G.I.P. Rly. and B.B. & C I Rly. Thana, Kalyan and Poona. Hundred miles south of Nila-

Mula Tata and Sons are contemplating to harness the water of Kenya river for generating electricity. When completed it will supply 350,000 horse-power energy.

Madras Hydro-electric Schemes.—South India has no coal deposits and being far away from coal producing areas it could not develop her industries. Since development of Hydro-electricity in Madras and Mysore there has been rapid development of industries.

The Pykara Hydro-electric scheme was developed in 1932 on the Pykara river in Nilgiri district (Madras). Power is transmitted to Coimbatore, Erode, Trichinopoly, Ncgapatam, Madura, Vitudhungar.

The Mettur Hydro-electric is situated immediately below the Mettur dam. Mettur dam was mainly constructed for irrigation purposes but it is also utilised for the generation of hydro-electric power. The Mettur project provides electricity to the districts of Salem, Trichinopoly, Tanjore, North Arcot, South Arcot, and Chittoor. The Mettur Scheme is linked with the Pykara works at Erode.

Madras has developed another scheme on the Tambaparni river in the foothills of the Western Ghats above Papnasam in the Tinnevelly district. It supplies power to Tinnevelly, Koilpatti, Madura, Tenkasi, and Rajpalayan. Besides these, electricity is also generated at Palini hill, and Periyar power-houses. Madras Government is thinking to join the lines of Pykara, Mettur and Papnasam so that big electric grid line may be formed. In fact there is a net work of lines spread in southern Madras which transmit the power generated by above mentioned power stations. Electricity is supplied to Madras, Chingalpet, Pondicherry, Vilipuram, Tinnevelly, Vellore, Ranipet, Selum, Tripur, Dindigul, Madura, Sathur, Tuticorin, Cochin, Trichur, Coimbatore, Calicut and a large number of other towns

and cities. Near Mettur and at Coimbatore cotton textile industry is developing at a rapid stride and in a short period of time they will become important textile centres. Other industries are fast developing. Madras has other favourable sites for establishing Hydro-electric plants. Due to these power stations a new life has come to Madras industries.

Mysore Hydro-electric works.—The first Hydro-electric scheme was developed in India in 1902 on the Cauvery river in Mysore with the object of supplying electricity to Kolar gold mines. The power house is situated at Siva-Samundaram falls, 92 miles from Kolar Gold-fields. At present power is not only supplied to the Kolar fields but also to Bangalore and about 200 other towns of Mysore. Two more schemes are under contemplation in Mysore. The first will use the water of river Shimsa a tributary of Cauvery and the other better known as Meka-datu project will use the water of Cauvery 25 miles south of Siva-Samundaram. The industrial prosperity of Mysore state is dependent to a considerable extent on electricity thus generated from water.

In Kashmir electricity is produced from Jhelum river at Baramulla 55 miles from Sri Nagar. The power thus generated is utilised in the silk factory at Sri Nagar.

In the Punjab Uhl river scheme better known as Mandi scheme supplies power to N.W.Rly., and to several towns. Ferozpur, Layalpur, Ludhiana, Amritsar and Lahore, etc., are supplied with power. Jogendra Nagar near Simla hills is the power station where electricity is generated.

Recently in U. P. hydro-electric works have been opened in the upper Ganges area to supply power to agriculture and industries. The Ganges Canal in its course

from Hardwar to Meerut passes over 12 falls which range in height from 10 to 15 feet. The Government of the province made a scheme in 1926 to obtain energy from these falls and at present there are seven hydro-electric stations situated as follows. Bahadurabad, Mohamadpur, Chitaura, Salawa, Bhola, Palra and Sumera. Electricity generated by these power stations is joined by a line and the whole scheme therefore is known as Ganges Electric grid scheme. More than 14 districts of the upper Ganges are served by these hydro-electric works.

A number of Hydro-electric schemes are also being developed in Travancore state. Besides these hydro-electric works there are hydro-electric plants on various hill stations to supply electricity to those hill stations. As coal cannot be transported to those places and waterfalls are numerous water-power can be easily harnessed.

India generates more than 1,000 million kilowatt while U.S.A. generates 1,15,000 millions K.W. Germany 55,000 million K.W. Britain 31,000 million K.W., Canada 26,000 million K.W. and France 20,000 million K.W. Thus in comparison to the abovementioned industrial countries India is very backward in developing her water-power. But it is plain fact that India will have to depend increasingly on water power as she is hopelessly poor in petroleum supply and her coal resources are deficient, and unevenly distributed. Moreover Indian coal is of inferior quality. Thus water-power will be the main stay of Indian industries in future.

The Hydrographic survey undertaken by the Government of India shows that India has innumerable suitable sites for establishing hydro-electric plants, and there will be no difficulty in generating sufficient power for future industrial development. But it is high time to remember the

warning given by the Industrial commission that it is undesirable to leave the task of prospecting to private enterprise. Government should undertake the work and prevent monopolisation of power resources by private people.

Alcohol.—Another possible source of power is liquid fuel in the form of Alcohol. There are many vegetable plants, bushes, and trees found in many forests which can be distilled and fuel alcohol can be obtained in large quantities. This source has not been exploited as yet but it is hoped that in future it may also become an important source of power.

Wood fuel is scarce in India and the important forests are situated on hilly tracts and high mountains therefore it can never be used for generating power for industrial purposes. It is only in Mysore Bhadravati Iron Works that wood fuel is used for smelting iron. The wind power is also of little value in India owing to the lightness of prevailing winds. It is along the sea coast and the Deccan uplands where the winds are strong.

The Fisheries.

The fishing areas of India may be divided as follows—
(a) Sea fisheries, (b) Deltaic fisheries and (c) River fisheries.

The sea fisheries are confined to the coastal waters from 5 to 7 miles from the shore in Sind, Gujrat, Canara, Malabar Coast, Gulf of Mannar, Madras Coast and the Cormondal Coast. Most varieties of fish caught along the coast are edible. The catches are prawns, jew fish, Indian salmon, mullets, cat fish, pomfret, seer, sardine, mackarel, flying fish, rays, etc. There is a very little demand of these fishes in the rural areas therefore they are caught on a limited scale. The estuaries of the Mahanadi, Ganges, and Brahmaputra contain cock-up, pomfrets, prawns, catla cat-fishes, rohu etc. Fishing in the Indus and Ganges sys-

tems is very important because in these parts people prefer fresh water fish.

The great problem that lies in the way of developing fishing industry in India is that people are greatly accustomed to the consumption of certain varieties of fish only. Wide publicity and propaganda are necessary to convince people as regards nutritious value of fish not consumed at present.

Madras coast is the most important fishing ground in India with shallow water area of 40,000 square miles. The fishing population is large but the methods are very primitive. Drifters and trawlers are never used, only country boats are used for the purpose. Ganjam, Gopalpur, Vizagapatam, Cocanada, Masulipattam, Nellore, Madras, Pondicherry and Negapatam in the east coast and Calicut and Mangalore on the west coast are important fishing centres of Madras.

Fish is an important item of food for daily use in Bengal, and more than 5 lac people depend on fishing industry in the districts of Dacca, Rajshahi and Presidency division. But fishing is confined to inland waters only, the sea fisheries are as yet little exploited. If proper attempts are made, the Bay of Bengal can yield large quantities of high class fish.

In Bombay fisheries are concerned almost entirely with the exploitation of wealth of the sea. Bombay has good harbours for fishing crafts, good weather season lasting for seven months and an energetic and efficient fishing population.

In order to develop the fishing industry in India it is necessary to make first of all provision for cold storage facilities. In every fishing part the government should undertake

a survey of fishing grounds to ascertain what kinds and quantities of fish are available and to find out ways how best these can be exploited. Moreover modern methods of catching should be popularised among fishermen.

Land in India is rich:—The above brief survey of India's physical environments and natural resources proves beyond doubt that nature has not been niggardly to India. In fact nature has endowed India with her rich bounty. Her climate is suitable for wealth production, her soil is rich and productive, her mineral resources and power resources are abundant and her forest wealth is enormous. So India is very richly endowed by nature. There is no other country in the world with the exception of U.S.A. and China which has been so much favoured by nature in bestowing her bounty. But India is economically very backward and poor. The cause of her poverty and economic backwardness therefore lies elsewhere than the niggardliness of nature. It has been well said "India is a rich country inhabited by poor people". In the following pages we will find out the real cause of India's poverty.

CHAPTER III.

Population.

General:—Man and nature are the two primary factors that affect the economic life of a country. It is only the result of his action in relation to the natural resources that ultimately determine our economic well-being. Hence the importance of the study of population on which not only the quantity but also the quality of the human factor depends is more than obvious. Before we discuss, however, the facts of the problem of population in India and make our own suggestions towards its solution to the extent it appears to us a matter of practical politics and hence of economics, it would be desirable to offer a few general remarks on the question of such a vital and basic importance.

The first point concerns the correct appreciation of the nature of the problem we have in hand. There is no denying the fact that the population of a country has very great economic importance and the number of people a nation can afford to possess has much to do with the question of the total food supply at the country's command and its total wealth production. But it would be unnecessarily narrowing the whole question to say that economics covers the whole issue. There are other aspects of the population problem equally important and we can neglect them only at our risk. Population is as much biological in its nature as economic because it is so closely related to sex and the whole outlook about it. But even that does not exhaust the nature of the problem. The really correct and complete view will be to describe population as the problem of the whole life in its varied fullness and complexity. To put it differently it is the result of man's reaction to the whole

environment that surrounds him, his economics, his politics, his ideals and principles of life and its purpose, his social institutions and religious influences, his psychology and his temperament, his view about social status of women and their place and work in society and last but not least his past traditions, present outlook and future ambitions and aspiration about him and his fellow beings. Thus it is a problem of wide range and is the result of the working of the totality of all the factors that affect and influence human existence. It is then from this standpoint that we have to study the whole problem*.

The second point follows as a matter of natural sequence. A problem that affects the whole destiny of mankind in its multifarious aspects cannot be reasonably left to drift as it would. It is a fact, however, that only till very recently this has been the history of population in the whole world. An intelligent and conscious regulation so as to adjust it to the needs and exigencies of a country's welfare, so far has been an anathema to all. Children have come to this vast universe God-sent without any plan or design on the part of their parents who have scarcely realized their social responsibility in the matter. But there is no doubt that to allow a similar attitude of passivity in future also in this most important department of human life would be nothing less than disastrous. The argument applies with all the greater force to India whose teeming millions forming one-fifth of the world's population to-day suffer from such an all round decay and deterioration as may

*In recent years especially doubt has been expressed about the relationship between the economic environment and population. But this relation should be clearest in tracts where the pressure of economic environment is great and human institutions and sentiment least modify the normal biological processes. India on the whole may be said to satisfy both the tests. The pressure of population on resources is more than clear. And the process of social disintegration going on in the country as a whole has on the one hand removed the older checks on reproduction whereas the newer forms, as contraception, are still non-existent. Hence the population problem of India is a fit case for study from the economist view point.

have no parallel any where in the civilized world. The abysmal poverty, the broken health, the head-deep ignorance and social ostricism, and above all the dead weight of old traditions and superstitions that try to keep us back with their full weight—are such an imposing galaxy of facts as make the task of future national reconstruction a formidably stupendous one. And the first and the foremost condition for any hope of success is that our planning for the emancipation of the nation's whole life in all its many-sided aspect should not leave out of account this one great factor more of importance than any other. To look upon children as the God's way of distributing prize or penalty for our good or bad deeds and any conscious effort to regulate their coming into the world as moving a no-confidence vote in that Almighty's wisdom and judgment, is therefore, the royal road to perdition and must be avoided if we have to insure our future prosperity and welfare. Our attitude towards population must be of a rational and intelligent control and not of an unknown drift that knows not its own end.

Then there is the further question, should we study it as a world problem or only as one divided between nations? These days we have been accustomed to hear much loose talk of international economy and world-federations, in themselves very good and desirable ideals with which only a Hitler or Mussoloni may openly dispute. It is also a well-known fact that human ingenuity displayed in modern science and its varied achievements in different walks of life has already prepared a standing ground for the development of international co-operation and brotherhood. The rapid means of transportation have to-day reduced the whole world in effect to a much smaller area and made it a close and compact whole. But the eternal greed and lust of man and nation have so far stood in the way of this happy con-

summation which every one professes but none practices. And to-day the whole universe has been thrown in a welter of chaos and confusion where national jealousies and prejudices and egotistic forces have swayed our destinies for good or for evil with the inevitable result that the sons of God to His greatest disappointment and deep agony have thought it fit to kill one another and each give the other a neck-deep blood-bath. In face of these hard though bitter facts, to build any hope for the rise of a real international brotherhood based on principles of equity and justice in any near future is only laying an unwarranted faith in the morrow. Out of the present clash and conflict of powers, the possibility is for the old imperialist forces to again establish their hold, this time most probably under the leadership of the new world. And the progressive forces of socialism and revolutionary nationalism thrown on their defence may be compelled by the exigencies of their own security and preservation to adopt only a conciliating attitude for some time to come. This then is not the background against which a really tenable and just international order may be put up. Therefore, the only conclusion that we can draw is that national boundaries are going to have their due place in the post-war order as well, and our study of the population problem must be based in this setting. This, however, should not be understood to mean that the population problem of a country can or should be tackled as an isolated phenomenon without any regard for world factors. This is neither possible nor desirable when the world has shrunk to such narrow limits owing to modern means of communication. All that we mean, therefore, is that there being not much hope of the setting up of a really just and equitable international order in any immediate future, it is good for every nation to visualise the problem of population in relation to her own resources and social purpose and try to adjust it in this context giving full consideration to inter-

national factors and the way they are expected to affect. The difficulty of making a correct estimate of the varied and complex world forces is very great even in normal times, the difficulty is much greater under the present conditions when everything is in a state of flux and future a highly unknown and uncertain commodity, and the intricacy of the situation becomes all the more pronounced when we remember that population planning more than any other planning is in its nature a long range problem and there is no guarantee that within the period fixed for the realisation of a particular population policy the forces and trends of national and international situation may not so completely change that the whole policy till then conceived might be rendered a misfit. But there is no escape from all these risks and difficulties that are inherent in the very dynamicity of the problem and all that we can be expected to do is to formulate our plans and designs according to our present light based on the lessons of the past and a reading of the possibilities and probabilities of the future to the extent it is practicable for us to do so.

This raises another important question. What is the objective that a nation should keep before it in matter of population-policy? Malthus, the well-known English economist, made the bare subsistence minimum as the criterion to be adopted. But much water has flowed down the Ganges since his time. The theory of optimum population, in spite of a number of difficulties in fixing in practice the actual optimum, is no doubt an improvement on Malthus' inasmuch as it views the whole problem from a relative and hence dynamic aspect. But like Malthus its criterion is also only economic. As every college boy is expected to know, according to the advocates of this theory the population under a given state of knowledge and other relating circumstances should be so adjusted as to give

the highest per capita income. But this objective obviously is not consistent with the nature of the problem to which we have already referred. Economic aspect is a very important aspect concerning the population, only a fool would deny, because man can live by bread. However, it is also a fact equally important that man though lives by bread yet does not live by it alone. This is not to draw in into our discussions the fruitless and philosophical controversy of matter *versus* spirit because what we are concerned with at present is not to be determined by what view we hold about the relationships between the two factors of this controversy. Whether bread and the way you earn it underlies, and regulates the complex content of your whole life (the authors are of the opinion that it does) or not, the fact remains that human life connotes and comprises within itself what is called economic as well as non-economic whether we give the latter the name of religious and moral elements or of cultural and æsthetic ones. And hence the objective of a population policy can rightly be only that which envisages not merely economic welfare but human welfare in its totality. Because it is the human welfare that is the parent good in which all the different aspects of welfare are to be so integrated as to produce a really colourful picture of full life. Our standard of human welfare in its fullness and variety shall depend upon our ideals and values of life and is bound to vary from one to another. Hitler and Gandhi cannot agree in their ideals of social organisation and hence their views on population are bound to differ. But at the present juncture our emphasis is not on this ideal or that. We have simply to stress the general truth that population policy should be related and adjusted to the social purpose and ideal that a people put before them, to be woven out of the different strands of economic and non-economic values of life into a harmonious design, and not to only economic standards of either the bare

subsistence minimum or of maximum per capita income. What actually that social ideal would be is a different question which does not directly concern us at present. It shall be determined by the subjective and objective circumstances existing and operating in a particular country at a particular time, economics playing its important rôle no doubt.

Handicaps in the study of population problem of India:—So far our discussion was confined to the problem of population in general. Let us now come to the Indian aspect of the question. In view of our teeming millions leading a life of semi-starvation which is writ large on their depressed faces and broken spirits, the urgency of the study of the problem is beyond question. Because if India is to rise, from the depth of her staggering poverty to which she has sunk, to the level of a civilized existence, one of the essential conditions for such a happy consummation is the adoption of a well-thought out and rational policy of population control in place of the present one of mere drift and flow. Before we actually launch upon our study of the Indian problem, it would be worthwhile to mention a few handicaps under which the student of Indian population problems works. The first handicap that deserves our attention is concerning the lack and reliability of the data that we have. The single source of information on which the student of Indian population has to base his conclusions is the Indian census held every tenth year. The one defect of this source of information is that it is not continuous from year to year revealing only the net result of the trends and forces as they exist at the end of every tenth year. Secondly the accuracy of the figures so provided is also not believed to be undisputable. In other countries it is the statistics about births, deaths and marriages that give the most valuable data to the student of population. In our

country, however, either these data are not available to him or if available are not such as can be relied upon. Another difficulty about the Indian census figures is that the period before 1920 was subject, in India, to a number of major calamities such as famine of 1874-76, the famines during the closing years of the last century, and the influenza epidemic of 1918, which left their impress on the census figures collected just after them. Hence the results based on those figures could not be called normal and made their interpretation specially difficult. Thus our first and foremost handicap is regarding the faulty and inadequate data that we have. Another handicap arises owing to the vastness of our country which comprises within itself a large number of natural and homogenous regions very different from one another. This makes our arriving at any general conclusions for the whole of the country not a very dependable affair. Because our general conclusions may contain within themselves such a diversity of phenomena that they might cease to have any meaning in their all-India context. This means that a regional study of our population problem would be more correct and thorough. But want of necessary space would prevent us from any such attempt being made in this respect. Therefore it is under this twofold handicap pointed above that our study of the population of India would have to be conducted. Now we come to the actual facts of the problem in hand.

Growth of population in India :—It was in 1872 that the first Indian census was held, the last one being held in 1941. The first outstanding fact relating to the Indian population is its continuous growth. The total has increased from 206.2 millions in 1872 to 352.9 millions in 1931, representing an addition of 146.6 millions. Of this 59 millions is known to be on account of either the inclusion of new areas or the improvement in the method of computa-

tion. This leaves a real increase of 87.6 millions which means an increase of 30.7 per cent. during this period of 59 years*. In 1941 the total figure excluding Burma has reached the limit of 388.8 millions the corresponding figure for 1931 being 338.1 million only. This means an increase of 15 per cent. during the last decade. It should be noted in this connection that it represents the highest percentage increase registered so far from 1872. The increase between 1921-31 was estimated at 10.6 per cent. only. Another point about this growth of population in India is that the decades lying between 1872-1881, 1891-1901, and 1911-1921 had only a very small share of the total growth, the figures of percentage increase being 1.5, 1.4 and 1.2 respectively.* In the first two decades the depressing effect was due to the break-out of famines, whereas in the last decade the influenza pandemic of 1918 was responsible for this unduly low rate of increase. The last two decades can be regarded as normal ones from this view point. The population of India is one-fifth of the world's population, and is greater than that of any other country.

If we compare the figures of other countries of the world with those of India relating to the percentage increase in population, we shall, however, find that the percentage is much lower in case of India. The figures for the years 1870-1930 regarding some of the countries are as follows : Germany 60%, Italy 63%, Spain 44%, England and Wales 77%, France 14%, Russia 115%, Denmark 100%, U.S.A. 125% and Japan 113%. It is clear from these figures that with the single exception of France, in all other countries the percentage is higher than that of India. But even a lower percentage in case of our country means quite a big increase in absolute figures, is a fact that should not be neglected.

*India's teeming millions by Gyanchand. Chapter III.

If we distribute this increase in population between the Provinces and the States, the figures between 1901 and 1941 reveal the following position :

Decade.	Percentage.	Increase.
	States.	Provinces.
1901—11	+12·9	+ 5·0
1911—21	+ 1·0	+ 0·9
1921—31	+12·8	+10·6
1931—41	+14·5	+15·2

As between the provinces themselves, the highest percentage increase (44.3%) has been registered by Delhi in the decade 1931-41, and in the previous two decades also (1931-21; 1921-11) its position had been the same in this connection, the relevant figures being 30.3% and 18% respectively. The position regarding other provinces also discloses great diversity not only between one province and another but also between one decade and another in the same province. The following table shall throw some light on this aspect of the question. The figures relate to the last four decades only and are taken from the census of India, 1941. It would be noticed that the distribution of provinces has been made on the new basis of the Act of 1935. This makes comparison with the present position possible.

Province Decades showing percentage of variation :—

Province.	Decades showing percentage of variation.				
	1901-11	1911-21	1921-31	1931-41	1901-41
	%	%	%	%	%
1. Madras ..	+7.9	+2.5	+10.4	+11.6	+33.1
2. Bombay ..	+5.3	—0.8	+12.4	+15.9	+36.1
3. Bengal ..	+8.0	+2.8	+7.3	+20.3	+43.1
4. U.P. ..	—1.1	—3.1	+6.9	+13.7	+16.3
5. Punjab ..	—1.8	+5.6	+13.9	+20.5	+42.5
6. Behar ..	+2.9	—1.1	+11.5	+12.3	+28.6
7. C.P. & Berar ..	+16.2	—0.1	+11.5	+9.7	+42.0
8. Assam ..	+14.9	+13.4	+15.6	+18.3	+78.2
9. N.-W.F.P. ...	+7.6	+2.5	+7.7	+25.2	+48.8
10. Orissa ..	+6.4	—3.0	+9.2	+8.8	+22.5
11. Sind ..	+9.4	—6.7	+18.5	+16.7	+41.2
12. Ajmer-Merwara	+5.4	—0.5	+13.5	+15.1	+36.9
13. Andamans & Nicobars. ..	+7.3	+2.4	+8.8	+14.6	+37.0
14. Baluchistan ..	+8.5	+1.5	+10.2	+8.2	+31.3
15. Coorg ..	—3.1	—6.4	—0.3	+3.3	—6.6
16. Delhi ..	+2.0	+18.0	+30.3	+44.3	+126.2
17. India ...	+6.7	+ .9	+10.6	+15.0	+37.0
18. Provinces ..	+5.0	+0.8	+9.9	+15.2	+34.1

The following table taken from the census of India 1941 shows the density of population:—

Province or State.	Density in different decades.				
	1901	1911	1921	1931	1941
India ..	179	191	193	213	246
Provinces ..	254	267	269	296	341
Madras ..	287	309	318	350	391
Bombay ..	200	211	209	235	272
Bengal ..	529	569	584	627	779
U.P. ..	445	441	427	456	518
Punjab ..	201	198	209	238	287
Bihar ..	405	421	416	464	521
C.P. and Berar ..	120	139	139	156	170
Assam ..	..	..	136	157	186
N.-W.F.P. ..	152	164	168	179	213
Orissa ..	221	235	228	249	271
Sind ..	67	73	68	81	94
Ajmer-Merwara ..	178	187	186	211	243
Andamans & Nicobars. ..	8	8	9	9	11
Baluchistan ..	7	8	8	9	9
Coorg ..	114	111	103	103	106
Delhi ..	708	722	852	1,110	1,599
States & Agencies ..	88	100	101	114	130

An examination of the above two tables leads us to the two important general conclusions. First not the population of the country as a whole only has shown an increasing tendency, but all the provinces also illustrate the same trend on the part of our population. The increase in case of some of the provinces has been more than the average for the country as a whole, Bengal, Punjab;

C.P. and Berar, Assam, N.-W.F.P., Sind, and Delhi falling under this head. Out of the major provinces the position of U.P., Bihar and Orissa, on the other hand, falls under the second category. Commenting on the causes of this increase, Mr. Yeatts writes in the census report that increase in reproductive forces as a result of reduction in infantile or maternal mortality or in the death-rate of persons in youth, under-enumeration in 1931 due to political causes arising from the Civil-disobedience movement of Gandhiji, and the active attitude of the people towards census as compared with passive in the past underly this great accretion in our population which is greater than the entire population of any European country except Germany or Russia. The second important conclusion in regard to our growth of population is that generally the increase is greater in those provinces and those parts of them where the density of population is great already. The examples of Bengal, U.P., and Madras, illustrate this tendency. To give an explanation of this tendency is a difficult question and would be only a matter of speculation. The comparatively favourable conditions regarding soil fertility, rainfall, and other agricultural requirements on the one hand and the lack of capacity of other parts to absorb the growing population either because of their inherent incapacity or their lack of development on the other hand may be advanced as the reasons responsible for this. We shall discuss this question of the factors affecting the density of population in a country a bit at length.

Factors affecting density of population.—The average density of population in India according to the 1941 census is 246. Figures for some other countries of the world as given in the census of India (1931) are as under: Belgium 654, England and Wales 685, France 184, Germany 332, Netherlands 544, Austria 199, Spain

107, Japan 215, United States 41, New Zealand 118, Egypt 34, China 200. One fact that emerges from this comparison is that the average density in India as a whole is not much, though there are provinces like Bengal and U.P. which rank amongst the most densely populated parts of the world. This shows distribution of population in the country is not even. Another important fact that comes out is that economic prosperity and density do not go hand in hand. Egypt and U.S.A. both have a low density but are economically very differently situated and U.S.A. and England show great divergence in density though not in their economic position.

We can say that density of population depends upon a number of factors, climatic conditions, security of life and property, stage of economic development in which a country is (an industrial country having a greater capacity than an agricultural country) and the economic resources of the country, and last but not least the standard of comfort which the people enjoy. The low average density in case of India as a whole can be attributed to her being mostly an agricultural country.

The figures relating to density of population of different provinces show great variety, the lowest being 9 per square mile in Baluchistan and the highest being 779 in Bengal. No one factor is responsible for this divergence. The most important factor is that of the natural configuration of the land. Plains such as in Bengal, and U.P. have a higher density than undulating and hilly tracts as in the southern part of the country. Unfavourable climate also becomes an adverse cause as has been in case of Assam. Rainfall has also its share but only within the limits necessary for cultivation and its deficiency can be made up by artificial irrigation also. The examples of

Sind, and the Punjab, which have shown an increasing tendency for density as facilities for irrigation have increased are instances in the point. Baluchistan is a case of an undeveloped tract. Delhi has a peculiarity of its own, the large urban population of the city of Delhi explaining the great density of the province as a whole.

Distribution of population according to occupation.—A marked feature of the Indian population is its mal-distribution between different occupations. Agriculture accounts for an overwhelmingly large population, whereas industry engages a very small percentage of the population, and even in the case of industry, the population engaged in small scale and unorganised industries is much more than in the organised. The relevant figures in this connection in 1931 were Agriculture 65.84% of the total working population; industry 10.38% of the total; Transport 1.65%; Trade 5.53%; Public administration and liberal arts 2.86% and Miscellaneous 13.74%. Total 100%. The figure for agriculture has been criticised as an underestimate by Dr. Hutton, the Census Commissioner, because a large number of females supported by agriculture have been wrongly returned as domestic servants. Figures for 1941 are not yet available, but there has taken place no fundamental change in the life of the Indian people to justify any change from the above trend. The present war and the protectionist policy has no doubt given some encouragement to industrial production; similarly there must have been some increase in transport as well as professions and liberal arts; but all these changes are not enough to change the basic fact that India is predominantly agricultural a large majority of her people living on land for their subsistence. The position in India stands in direct contrast with what it is in other civilised countries of the world. The following table will give some idea of the

comparative position in India with figures of real income :

Name of the country.	Average Real Income per head 1925-34*	Percentage in occupations.**		
		Primary	Secondary	Tertiary
U.S.A. ..	1,368	19.3	31.1	49.6
Canada ..	1,337	34.5	23.2	42.3
Britain ..	1,069	6.4	43.9	49.7
Australia ..	980	24.4	29.4	46.2
France ..	689	25.0	39.7	35.3
Germany ..	649	24.3	38.5	37.2
Japan ..	353	50.3	19.5	30.2
U.S.S.R. ..	285	74.1	15.4	10.5
India (1931) ..	110	62.4	14.4	23.2

*Expressed in international units, an I.U. being the amount of goods and services which could be purchased in U.S.A. over the average of the decade 1925-34 or an amount interchangeable with them.

**Primary industries—Agriculture, forestry and fishing.

Secondary industries—Manufacturing mining building.

Tertiary industries—Commerce, Transport, etc.

The above table shows the great dependence of India on primary industries and also the fact that such a dependence is associated with low income per head. As the industrial and other occupations have not increased with the increase in population, in fact many of our old industries have decayed and become extinct, the dependence on agriculture in India far from decreasing has on the other hand increased. The following figures show the position in this respect :

1891	59.8%	population engaged in agriculture.		
1911	71.3%	„	„	„
1931	73.0%	„	„	„
(after necessary correction for wrong counting).				

The above review shows that a better distribution as between different occupations is urgently called for in India.

Population in towns and villages:—A further proof of this defective occupational distribution in the country's population is reflected in the relative distribution between urban and rural areas. In 1931 the urban population was 11 per cent. only of the whole. The figure for 1941 is a little more, it being 12.8 per cent. of the total. To appreciate our backwardness, it may be pointed out that urban population in France is 49 per cent. 56.2 per cent. in U.S.A. and 80 per cent. in England and Wales*. In view of this small urban population, it is difficult for us to display the same enthusiasm about the progress of urbanisation in the country which Yeatts has displayed by remarking in the Census Report 1941 "that India is in for urbanisation on a big scale." Speaking of its future trend he says "the rate (of urbanisation) is high and is itself increasing and that it will affect pronouncedly the really large towns rather than smaller ones." The population in cities of

*Jathar and Beni Vol. I. Population Chapter.

1 lakh or more inhabitants has increased over the decade from 9.1 in 1931 to 16.5 million in 1941, a rise of 81 per cent. The number of cities of this size has risen from 35 in 1931 to 58 now. Industrialization and the preference of the middle classes for city life and its conveniences, are the two major causes of urbanisation in our country. Amongst the provinces, the U.P. shows the largest increase in numbers to the city category, with the Punjab a good second, and over a third of the new names comes from these two provinces. In this connection Bengal offers an interesting contrast with the U.P. whereas the former has got in all 4 cities, the number in the latter's case reaches the figure of 12 though in matter of total population Bengal has seven millions more people in it than the U.P. In the end we must make one more remark, and it is that though we favour a greater urbanisation of our population, but that should not be misconstrued as a vote in favour of the squalor and dirt that are found in such cities as Bombay or Calcutta. We want neat and good cities to develop in the country, and in much larger number the medium-sized towns scattered over the country rather than mammoth cities like Calcutta, Bombay, London or New York.

Distribution of population by Communities:—

In the past the census report showed distribution by religion, which came up always against the difficulty of distinguishing between tribal religion and Hinduism in regard to which figures in the past have never been satisfactory. Therefore, a change has been made in 1941 census, and origin or community has been made the basis of new classification. Thus all persons belonging to tribal origin have been classed under the one heading 'tribes' without attempting their further distribution as between religions. The following figures give a bird's-eye view in respect of the

distribution of the main communities on different decades for the country as a whole per 1941 census :

Name of the community.	Number per 10,000 of the population in Decades.				
	1901	1911	1921	1931	1941
Hindus ..	7,034	6,931	6,841	6,824	6,593
Muslims ..	2,122	2,126	2,174	2,216	2,381
Christians ..	99	124	150	179	163
Jains ..	45	40	37	36	37
Sikhs ..	75	96	103	124	147
Tribes ..	292	328	309	236	658
Others ..	333	353	386	385	20

The above table reveals a regular decline in the population of the Hindus and a regular increase in that of the Muslims so far as the two major communities of the country are concerned. Summing up the position for British India, the Census Commissioner writes "64½ per cent. of the population are Hindus, 27 Muslims, 1 Indian Christian, 5½ Tribes, and 2 others". He further says "the general position, however, be summed up as that of 100 Indians in All-India, 66 are Hindus, 24 Muslims, and 6 of tribal origin. Allowing for that proportion of tribes who may be regarded as assimilated to Hinduism, the Hindu element is over two-thirds."

Population according to Sex:—Another fact that deserves our notice in the matter of population study of a country is the proportion between the two sexes. According to the 1941 census the proportion of females to every thousand males is 935 for the country as a whole. The relevant figure for 1931 was 940. This shows a slight deterioration in the position. Madras and Orissa are the only two provinces where proportion of females is higher, being 1,009 in the former case and 1,069 in the latter,

though in both the cases there is a decline in comparison to 1931 figures. The Punjab, Sind, Ajmer, and U.P. are some of the provinces where the position has somewhat improved.

How is this deficiency of females to be explained? Deficiency at birth is a universal phenomenon which, however, is corrected later on by a higher rate of infant mortality in the case of males than of females. In India the disparity persists for conditions of living for women are definitely more unfavourable than are for men. Such social practices as purdah and early marriage, the latter causing premature motherhood and all the attendant risks, and the practice of female infanticide that is suspected to still persist in certain castes even yet offer one explanation for this deficiency of females. The maternal mortality rate for India as a whole may be some where near 20 per thousand in India, whereas the corresponding figure for England and Wales is only 2.9. The bad midwifery of the village *dai* is a factor that is partly responsible for this high maternal mortality. A general discriminative neglect of women's health not only by men but by women themselves and a similar tendency between male and female children also are a commentary by themselves. The migratory character of Indian labour, not accompanied by their women, is further responsible for a more pronounced discrepancy in industrial towns and cities. The smaller employment of women in urban industries is also a factor in the matter. We may sum up by quoting the following words of the Census Commissioner, 1941 in this respect. "This matter of female defect is not separable from a wide range of considerations which begin in public health and end in social custom, covering, for example, such features as maternal mortality, early marriage, and prohibition of widow-remarriage." An improvement in

all these directions would produce a change for the better in the fact of female defect also.

Distribution according to age:—The importance of age distribution in population lies from the point of view of determining the proportion of working population to the whole. This distribution by its nature must take the form of a pyramid, broadest at the base and narrowing down as it goes higher and higher till it ends showing that beyond a particular age no one lives. A gradual narrowing from the base shows the best distribution as there can exist no excessive mortality in any age group under such a condition. The peculiarity of the Indian pyramid lies in the fact that it has the broadest base of all countries owing to a very high birth-rate, and it tapers towards a point more sharply than in the case of any other country, indicating the inferior longevity of the Indian population. The average expectation of life in India both in the case of males as well as females is much less than it is in European countries. In case of a male the average life in England is about 55 years whereas in India it is about 27 years only. The figures for females are 60 years and 27 years approximately. Figures for 1941 for India are not available.

Future trend of the population:—We have already noticed that the Indian population has shown a regular growth from decade to decade, though the rate of this growth has been much less in comparison with other countries of the world. We have now to make an estimate, as far as possible, of the future tendency in this respect. Change in the population of a country is the net result of the four forces of birth-rate, death-rate, immigration and emigration. In case of India the last two factors are not important and may be left out of account. We have, therefore, to concentrate our attention on the first two factors of birth-rate and death-rate, the latter being the more important.

Birth-rate :—The outstanding feature of the Indian birth-rate is its very high nature. It is almost the highest in the civilized world, varying between 36 and 33 per thousand in the twenty years between 1920-40. In modern civilized countries the tendency has been towards a reduction in the rate. For example the birth-rate in England and Wales for 1891-5 was 30.5 which was reduced to 15.3 in 1932. In India we have not so far found any such tendency in operation. The problem deserves a more detail examination.

The first difficulty that a student has to face in the study of our death and birth-rates is of the admitted inaccuracy in our vital statistics which lies some where near 33, and making an allowance for this margin of inaccuracy we may say that normal birth-rate in our country may be taken at 48 per thousand*. This makes the position still worse in comparison to other countries.

The causes of such a high birth-rate are not one but many. So far as the racial or biological factor is concerned, all that we can say at this stage is that it is highly obscure and is overshadowed by social and economic factors and hence must be left out of account. Out of the social and economic factors, we have to admit that in a country like India where masses are still tradition-ridden and conservative, the former is of the greater and decisive importance. Universality of marriage irrespective of economic considerations is the one outstanding fact. If any proof is necessary to substantiate the statement, it may be pointed out that even so hard and abnormal conditions as the present have not had any effect on the marriage-rate in India and people have married under the most straining circumstances. What solace such marriages bring, only they can under-

*Teeming Millions. Gyanchand.

stand and appreciate whose reason has been dulled and sense paralysed. But unfortunately the number of such people in India, even amongst the educated, is not small. Common disregard for the future of the children who flow as if automatically in an unrestrained stream is another point in the matter. Then comes the scourge of early marriage, but its influence on birth-rate is perhaps not so great as is commonly supposed as wives before the reproductive age are no wives at all from this point of view. But no attempt at marriage postponement, is only another aspect of early marriage and its effect on birth-rate is quite significant. To the extent early or rather child-marriage contributes to the number of widows in their reproductive age, its effect on birth-rate is depressing rather than encouraging. But as the ban on widow-remarriage undergoes greater and greater relaxation, which it should, the effect on birth-rate is bound to be in the direction of raising it still higher. Thus universality of marriage, early marriage and sterilization of widows are the important social factors, the first two encouraging the birth-rate and the last discouraging it. These factors are embedded in our social institutions and to the extent it is possible for us to change them the corresponding effect on population would be of course visible. The extremely low standard of people is also an important contributory factor. So far age composition goes, it may be remarked on the basis of 1931 figures that "age composition at present seems, owing to the increase in the proportion of women aged 15—30, to be favourable to a high birth-rate." (Teeming Millions, Gyanchand). And lastly, there is the other fact that in India fertility approximates very closely to fecundity which is a high birth factor as it means the tendency of the people to multiply to the limit of their capacity. Here fecundity must be distinguished from fertility. Fecundity means the power of reproduction whereas fertility is

taken to mean the actual degree of reproduction. "The full effect of fecundity would be realized if all females through their entire child-bearing period had sexual intercourse with procreative men and did nothing to prevent conception or procure abortion." Thus fertility can never equal fecundity and it is not so in India, but the gap between the two in our case is very small. Here an important point must be referred. The fertility of women in India is lower than in England, at 160 per thousand in the former case as against 196 in the latter. This has been accounted for by some to the lower fecundity of Indian women on the theory that fecundity increases with progress in civilization. Apart from the fact that this theory is against the widely accepted belief that fecundity decreases with intellectual and economic development, there also exists no unimpeachable evidence of the truth of this theory. Absence of moral restraint and of the use of contraceptives is also a factor that helps the birth-rate to increase. Prolonged lactation prevalent in India is, however, an element that goes against it. On the whole it is more than obvious that factors encouraging birth-rate are much more powerful in India and this is the reason of a high birth-rate in the country.

So far as the future is concerned, we can say that there seems no valid reason to believe that the force of these various factors would weaken to any substantial extent and thus bring about a reduction in the birth-rate. Another factor encouraging the growth of population in the country which may assume increasing importance in future concerns the communal basis of representation in Councils and assemblies as well as public service adopted by the British Government. No community knowing the political significance of the population it has would like to allow its number to fall. In fact the contrary tendency to encourage

the growth in population might be said to have already begun to operate. Spread of education in the middle class people, a change in the status and outlook of women and spread of education in them, and consequently an attempt to check population deliberately—are no doubt facts whose importance is bound to increase with the progress of times but still in the coming generation or so no great change is expected and the birth-rate is going to remain as high as now.

Death-rate—Another basic factor, and more important in case of India, in the increase of population is that of death-rate. India possesses not only a high birth-rate but also a high death-rate, specially in case of infants and mothers. The general death-rate for India after 1931 has been more or less maintained near about 22 or 23. Though this shows a marked decline in comparison to earlier figures for 1920 and 1921 which were 31, yet the decline should not be taken to mean that the tendency is a normal feature. In fact in the three decades from 1891 to 1921, abnormal factors as famine in the first, plague in the second, and influenza in the third were responsible for higher death-rates in those decades, otherwise so far as our normal position in this respect is concerned it has shown hardly any improvement. If we make the same allowance for the margin of error here also as we have done in case of birth-rate, then the normal death-rate in India would come to 33 per thousand. This is higher than that found in other countries of the world. The relevant figures for 1931-5 for some of them are: U.K. 12.2, Germany 11, France 15.7, U.S.A. 10.9, Japan 18.1 and Egypt 27.9. The causes of this high mortality are many. The grinding poverty of the people, resulting in a very inefficient standard of living leaves very little resistance power in the people to resist disease and death. Ignorance

and neglect of sanitary habits of living, and lack of proper facilities for preventive and curative measures of health maintenance are further causes that deserve mention. The rates of infantile and maternal mortality are also high. The figures for the former in the decades between 1921-40 ranged between the maximum of 198 and minimum of 156, the figure for 1940 being 160. After 1921 there seems to have been some decline in this respect. Even if we make no allowance for the margin of error in these figures, they compare very badly with those of other countries. For some of the countries the figures for 1931-35 are: U.K. 65, Germany 76, France 73, U.S.A. 59, Japan 124, Egypt 166, the figures for India for the same period being 171. Early marriage leading to weak children, drugging the child with opium, ignorance of and lack of facility for observing proper health laws are the causes responsible for this state of affairs. Malnutrition of the child due to poverty is also an important factor. Similarly the maternal mortality rate for India is put at the figure of 20 per thousand by the Public Health Commissioner (See the Census of India, 1941, Vol. 1, page 34), whereas the corresponding figure for England and Wales is only 2.9. The high figure for India is obvious and can be attributed to all those causes which we have mentioned in connection with general death-rate or infant mortality. Inefficient midwifery is an additional condition.

The above survey about the death-rates in India points to the appalling conditions existing at present. How far the conditions are expected to improve in future, is a difficult question to answer? The real solution besides developing better public health, lies in the improvement of people's economic condition which itself is a complex problem and pre-supposes so many 'ifs' before any successful consummation. The point to be emphasised is that the

question cannot be answered in a one-sided way and is interlinked with a number of other problems, social and economic. All that we can say at present is that in the near future we need not expect any revolutionary change in the normal circumstances of the country which would justify any marked improvement in this respect also; though there might take place some slight change for the better. Then in the present decade we have the great probability of certain abnormal events occurring. The direct loss of life involved in the present war and caused by recent floods and famine in certain parts of the country on the one hand, and the chances of breaking out any epidemic in the post-war period on the other—are factors that would send up the death-rate still higher. But no accurate estimate of all this can be made at present.

Balancing of deaths and births.—We have seen that India possesses a high birth-rate as well as a high death-rate and in near future, condition in these respects is expected to remain more or less the same. From all this what conclusions we can make out for the future of the growth of our population? Here it may not be out of place to point out that according to recent developments in the population theory, to determine the increase of population on the basis of the difference between the births and the deaths is not regarded as a scientific and accurate method because it does not take into consideration the variations in the age and sex compositions of the population. Hence more refined methods of prediction are resorted to. 'Kuczyuskis' method of Net Reproduction Rate is one of them which is very popular. But owing to defective and inadequate statistical data, use of any such method for India is ruled out of question. This, however, is not any serious disadvantage in our case as age composition in our country is not undergoing any material change as is the case in several

western countries to-day. In other words, the proportions of persons at different ages have not shown any marked change from the standpoint of the growth of population. Therefore, to predict the future trend of the growth of population in India on the death and birth-rates would not involve us in any great inaccuracy; and on this basis the conclusion we reach is that a further growth of population in this country say at the rate of 50 lakhs per year is likely. It is on this basis that we have to devise a population-policy for our country, of course other relevant factors will have to be kept in view.

The problem of a sound population policy for India.—So far we have discussed the facts concerning the present population situation in the country, and the net result of all this discussion is that as a people we are already quite large and in future also we are expected to maintain our growth at the rate of 50 lakhs per year. This is, however, an insufficient data to frame any policy regarding population in future. The other important point is about our economic position as a people. If we find our present position satisfactory and possibilities of future development *pari-passu* with the rate of our population growth, there need be no cause for anxiety. But no Indian need be convinced to-day with the help of any statistics that economically we are the poorest people in the civilized world and the possibilities of economic development, though vast under conditions of a different social and political order, are also highly limited under the existing circumstances. And the establishment of a different social and political order in the country is to-day a highly uncertain factor which depends upon such a varied situation in national and international affairs that any speculation at present is almost impossible. The more practical and also the safer view would be to take the existing situation as our basis. It

does not mean that we hope for no changes for the better in the political and economic condition of our country, but the present reading of the national as well as international situation does not obviously give the present authors any great hope for a radical change in our socio-economic order in the immediate future in the absence of which any substantial improvement is out of question. Hence, we must admit the glaring fact that India is at present in a state of over-population and our future population policy must be based on a deliberate attempt to restrict its growth in future. This is the only rational policy that we can adopt in respect of our population problem. Before we discuss the problem of India's over-population a bit in detail, one important warning we must sound here and now. It is concerning the causal relationship existing between India's abysmal poverty and her growing population. The official view in the matter has always been that our dire poverty is in a large measure due to the growth of population. This is however, not borne out by facts. "During a period of rapid development of economic resources and a rising tide of prosperity in other countries, which the growth of population has not only not adversely affected but is partly responsible for, India's position has become relatively, if not absolutely, worse". Hence India's poverty is to be explained by our economic exploitation by and backwardness due to a foreign imperialism rather than by our population. It, however, does not mean that a reduction in the rate of our increase would not be of great help in the work of our future reconstruction.

The problem of over-population in India.—We have remarked that India suffers from over-population. What we mean is that taking the present development of our economic life as the basis, the existing population is more than can be supported by the present level of national

production on the basis of a healthy standard of living and to ensure a better standard in future a deliberate policy of restricting the growth of population is necessary. It must be emphasized without the fear of repetition that no radical change in our socio-economic life is the basis of this conclusion. This view regarding the over-population of India has, however, been opposed by many eminent persons of our country and therefore needs to be supported by certain proofs.

We have already noticed that there exists no wide gap between fecundity and fertility in India because our people exercise no check on the production of children either through moral restraint or use of contraceptives. Hence we have a high birth-rate which is the first symptom of over-population. Another symptom lies in the operation of positive checks which is the nature's method to keep the population within the limits of subsistence. The high death-rate in India is the proof positive of positive checks like epidemics and floods and famines being the more important method of balancing the population and the available means of subsistence. Then the amount of food supply in the country is also a criterion that is suggested to estimate the question of over-population in a country. In this respect also our position is not satisfactory. Agricultural production in the country has not kept pace with the increase in population and Dr. Radhakamal Mukerjee in his "Food Planning for four hundred millions" estimates for India a food deficiency for 12 per cent. of the population in a year of normal harvests. But Dr. P. J. Thomas has established a different view. According to him between the biennial periods 1920-21 and 1921-22 and 1930-31 and 1931-32, while the increase of population was 10.4 per cent. agricultural production increased by about 16 per cent. and industrial production by 51 per cent. To arrive

at a definite conclusion in this respect is difficult because of the faulty and inadequate nature of our production statistics. But statistics apart, the outstanding fact of our economic life is our poverty and any attempt to reduce the rate of population growth in the country is bound to help us in our work of national reconstruction.

The Remedial Measures:—To improve the existing unsatisfactory position regarding population in the country two remedies are possible. The first consists in deliberately checking the growth of population, and the second in augmenting our present national income and also in a better distribution of it. So far as the second method is concerned we have to remark only so much that the problem is not only economic but also political in its aspect and any successful solution of it would depend upon a number of factors any estimate of which is both unnecessary and impossible at this juncture. So far as near future is concerned, however, the limitations of the remedy have not to be forgotten.

The direct and the straightforward methods of checking the growth of population are two (a) Moral restraint and (b) Use of contraceptives.

(a) **Moral restraint:—**Some people advocate the practising of moral restraint as the only effective and safe method of limiting population. Mahatma Gandhi in our country is a great advocate. But on the whole we cannot expect much in this direction from average human beings of bones and flesh. There also exists a body of medical opinion according to which the effects of a continuous self-denial over long periods produces very harmful reactions on the mind and the body of the married couple.

(b) **Contraceptives:—**The only alternative that remains if we have to exercise any deliberate check on the

growth of our population is the use of contraceptives or artificial methods of birth-control. This method has been very popular in the west and also proved successful to a great extent. About the use of this method there prevail two opposite schools of thought in our country. The one that opposes birth-control methods has amongst its advocate such eminent personalities as Mahatma Gandhi. The objections raised against this method are (i) It is immoral (ii) It is unnatural (iii) It would encourage sexual immorality (iv) It would be mostly used by well-to-do and intelligent people only. Let us examine the objections a bit in detail.

First as to its being immoral. Mahatma Gandhi writes at one place "Union is criminal when the desire for progeny is absent." The word 'criminal' is used here in the sense of 'immoral.' But the modern opinion on sex is different. It has learnt to separate sex from parenthood and does not regard it either immoral or criminal when not motivated by a desire to produce children. H. G. Wells says, "The sexual act is never merely physical. It is not even mainly physical. It is involved with a whole world of sensuous and aesthetic discrimination." It does not, however, mean that all cases of sexual act are in this category. The sexual impulse covers a vast variety of emotions and is expressed through acts ranging from rape to the experience of lovers who find in their mutual union an outlet for the deepest and best in them. Hence the modern view of sex does not admit of any immorality in a sex act that is devoid of a desire for procreation. But apart from this, there is also the other side of the question. How far it is consistent with morality that the punishment for the parents' so-called immoral act must be inflicted upon the poor children who have to suffer all sorts of privations for being born to those who

cannot properly look to their welfare. Children are after all not meant to balance the moral account of the defaulting parents. Hence, there is no immorality involved in separating sex from parenthood. In fact just the reverse may be true.

~~Ques.~~ To the argument that contraceptive is unnatural no serious thought need be given. Unnatural is not always bad and natural good. The essence of civilization and culture itself in a sense is unnatural but on that account we are not going to cast our vote for barbarism and an uncivilized and uncultured existence.

That contraceptive can be used for hiding sexual laxity and thus encouraging immorality, may be partly true. But the experience of the western countries has clearly demonstrated that for every man that uses contraceptive for an unconventional purpose, there are a hundred who use it for perfectly legitimate and conventional purpose of escaping unwanted parenthood. Because non-violence can be the best cover to hide cowardice, Gandhiji has not thought it fit not to preach non-violence. Then morality born of fear is no morality, and what birth-control does is to remove this fear and put morality on its own feet. So far as India is concerned, chances of social intercourse between men and women are still highly limited and hence the danger is not so much here as in other countries. And lastly, we must remember that birth-control or no birth-control, society has always had at all times and in all places its set of merry birds and the real remedy to reduce their number is not this but something different.

Lastly, we must also admit that in the very beginning birth-control movement would find its supporters in the upper strata of society and there would take place a decrease in that section of society which is better fitted to produce and bring up children well. It might affect the population

adversely so far as its quality is concerned. But this is bound to be a temporary phase and ultimately the movement must reach the masses also. Besides this the development of not an individualist but a social approach to the problem of population would also improve the matters somewhat. On a realistic consideration of all these objections, therefore, we are led to the conclusion that the use of contraceptives and birth-control methods must be popularised in our country. But there are certain difficulties of a practical nature and they must be successfully overcome before the movement can gather any force. At present the movement can be said to have hardly begun, though the educated middle class in the country has taken very kindly to it.

The first difficulty is regarding the change of mentality in our people. Tradition and orthodoxy would range themselves against the movement and they must be defeated by a well-organized and discriminate propaganda in favour of birth-control. Guidance of the State is highly essential. An allied problem is that of disseminating correct information about the methods of birth-control and providing expert medical advice in the matter. Establishment of clinics for this purpose would be of great help. Even this would call for state help and guidance. Then there is the further problem of devising effective and cheap contraceptive which is both certain and fool-proof, is aesthetically satisfactory and within the means of the poor masses. It must be very well realized that unscientific use and harmful contraceptives may do more harm than good and must be carefully provided against. State protection and help to contraceptive manufacturing concerns is necessary to achieve the objective of cheapness and state control is necessary to see that harmful contraceptives are not advertised and sold.

Lastly, so long as the country does not become politically free, it is the political organisation fighting for the achievement of the country's independence which will command people's confidence and following, and such an organisation would be the last to advocate a policy of population control. Hence no effective propaganda amongst the masses against an unrestricted growth in our population can be possibly carried on. This brief reference to a number of practical difficulties in the way of a birth-control movement in India made here clearly shows, that before we can achieve anything substantial in this respect much time and energy of the nation including that of the government would have to be spent. And to the extent we would succeed in this, our success in checking further growth in our population would be possible. But the point all the same must be reiterated, that if India wants to check its population from growing, that is the only way to do it. The truth of this lesson must be taken to heart, and the sooner we do it the better it is.

Migration:—We have already remarked that either the movement of the population within the country or emigration are of no help in solving the problem of population growth in the country. So far as inter-provincial movement within the country is concerned, Assam, Bengal, Bombay and Sind have been the only provinces to which people from different parts of the country as Bihar, Orissa, C.P., U.P., Madras, Nepal, Rajputana, Punjab and N.W.F.P. have gone to their neighbouring provinces mostly. Tea gardens of Assam, and industrial areas in Bengal and Bombay have been of great importance in attracting the outside population. But the bad climate of Assam has been a constant hinderance. Now it is learning to rely more and more on local labour also. All that we can say is that this inter-provincial migration is of no consequence so

far as the population problem goes. The same is the case of emigration to foreign countries. There are at present about 3 million Indians resident abroad. Nearly all of them are resident in other parts of the British Empire. The Indian emigration has been either (i) of unskilled labourers under indenture as in the case of Fiji, Natal, Mauritius and the West Indies or under some special system of recruitment as in Ceylon and Malaya, or (ii) of people belonging to professional, commercial and artisan classes. The majority of the emigrants work as agricultural labourers on plantations of rubber, tea, coffee etc. Since 1917 indentured labour has been stopped. During the past few years most of the countries within the British Empire have put restrictions on the immigration of Indians. The condition of those already there is highly unsatisfactory. Thus the fact remains that emigration outside the limits of India has recently been unimportant and can make no effective contribution to the solution of our population question.

Eugenics—The efficiency of a people depends to a great extent upon its quality in respect of which heredity also exercises a great influence. Those who are, for example, physically unfit, mentally unsound, and morally degenerate, cannot produce a good stock and in the interest of society there should be some ban on them. The main difficulty in this respect is that the science of eugenics has not made much progress yet and our information regarding the laws of heredity in their application to the inheritance of human characters is still very poor. Another difficulty is the existing state of public opinion which would not view with favour any state interference for promoting certain schemes of positive eugenics. Yet there is great need for this sort of regulation and India is no exception to it. Certain rules in our country as prohibiting marriage within a particular degree of relationship are good from this point of view,

but there are others which are harmful also *e.g.*, constant inbreeding among the members of microscopic endogamous sub-castes. Hence India stands as much in need of enlightenment on this score as any other country. Certain countries like the U.S.A. have already made a beginning in eugenic legislation by forbidding marriage of anyone suffering from venereal diseases, and of feeble-minded persons, and also by sterilizing idiots so that their power of reproduction is destroyed though the sexual function is left undisturbed. Though any legislation on this subject would be premature but an attempt to educate public opinion on this important matter must be made.

Conclusion:—We have discussed the population problem in our country from every possible aspect and have advocated the policy of deliberately checking the future growth of population in our country as the only rational policy in this respect. But it must not be lost out of sight that checking the population from growing is by itself no end, the real end being the improvement in the economic and social condition of the people. Thus a well-planned programme of national reconstruction is a logical and necessary adjunct of population planning without which the latter is bound to prove fruitless.

CHAPTER IV.

Social and Religious Environment.

The idea of an 'economic man' on which the older economists tried to build up the superstructure of the science of Political Economy has long been exploded. It is now a fact accepted unanimously by all the modern students of economics, that economics as a science is concerned not with any special type of human beings but with the same ordinary and average man whom we come across everywhere and who is moved in his multifarious activities not only by economic considerations of monetary gain and loss but by all the complex motives of human sentiments, religious social and patriotic ideals and all the rest that affect his life and are affected by it. Thus the distinguishing feature of economics as a science from other social sciences lies not in its study of the activities of a special type of man, distinct from ordinary human beings, but in its special approach and view point with which it studies human behaviour. This inter-relationship of social and religious environment on the one hand and the economic life of man on the other and the fact that the two act and react upon each other, have, however, nothing to do, either by way of support or condemnation, with the theory that it is ultimately and basically on the economic environment, as determined by production-relationships existing in a particular society, that the whole of the social edifice, expressed in its legal, political, religious and philosophical systems, stands. For the present our concern is only to emphasise the point that to understand and appreciate the economic life of a people it is highly necessary to trace its relationship with their social and religious institutions and ideals as well. Let us, therefore, study the conditions as they exist in our country and their effect on our economic life.

One of the most important social institutions of our country is the well-known caste system which in its peculiar form forms the most important feature of the Hindu society. The first point that we have to remember in this connection is that the caste system as it prevails in our country has to be distinguished from the social gradations which exist in other countries of the world. Whereas the noteworthy feature of the Indian caste is its rigidity and exclusiveness which stand as a barrier between different castes in matter of food, drink, marriage and in certain cases even social intercourse, no such hard-and-fast boundaries are fixed between the social classes in the west. It is possible, for example, for a person belonging to one social class to raise himself to a higher one by the sheer dint of his own efforts; and so also a person from a higher social status may fall down to a lower one. And in spite of the predilections for members of the same class and the prejudices against those of a different one particularly of a lower social rank, there exist no restrictions either regarding food, or drink or even marriage. But as we all know very well in India the two basic and important principles of the caste system are heredity and endogamy thus making passage from one to another or marriage between two different castes entirely out of question for those who care to respect the rules and restrictions of their respective castes. And in India the overwhelming majority of the people are still found to possess such a respect. This is to be pointed out, however, that this characteristic rigidity of the Indian caste system is only of later growth. There is said to exist ample evidence in our old scriptures to prove that in the early stages of its development the caste system was fluid in character. There are found not a few examples when a person born of a 'Kshatriya' father became a Brahman himself and *vice versa* because of his own qualifications.

This fluidity existed to an extent as between all the four original 'Varnas', but especially between the first three, the 'Brahman', the 'Kshtriya', and the 'Vaishya'. It is thus a fact that the above division of society into the four well-known broad categories was originally determined not by birth ('Janma') but by work ('Karma'). What were the causes that led to the existing rigidity of the caste-system and the division and sub-division of the society into the innumerable castes of the present time, which must needs be distinguished from the four broad divisions originally existing, is a question that admits of no definite answer and still remains shrouded in mystery and is perhaps ever to remain so. There seems to be, therefore, a good deal of truth in the contention that there is no one cause that is responsible for the origin of the caste-system in our country. Various causes arising out of varying situations at different times must have gone together to make up this existing complicated structure of our social organisation. Let this highly controversial issue, therefore, not detain us any longer as our real purpose is to study the economic effects of the system as it exists to-day and not as to how it came into existence in its present form and shape. Before, however, proceeding to a discussion of the achievements and demerits of the caste-system, it would be desirable to point out that all the existing castes whose number runs to the formidable figure of a few thousands may be classified into a few broad categories. (Risley mentions seven such categories of which three are more important. There are the tribal or racial castes such as Abhir or Ahir, Rajbansi of Bengal, Jat and Meo of Rajputana and the Punjab, and Nayar and Paraiyan of Madras. Then we have the innumerable functional or occupational castes, the most important of the group, such as the Bania, the weaver, the carpenter, the potter, the barber, the goldsmith and so on and so forth. The third

category is of the sectarian or religious castes whose distinguishing feature is the particular religion or sect they profess. The Lingayats of Bombay, the Bostum of Bengal, and the Atitha are examples of this class. Now we come to the advantages and disadvantages of the system.)

When one thinks of the caste-system in its present rigid form with its innumerable ramifications, the uppermost idea that comes to his mind is about its highly indefensible character both as a social and an economic feature of our society. It appears in the context of modern scientific achievements of man, that make international co-operation and brotherhood not only possible but highly necessary if humanity is to progress towards its ever professed goal of peace and prosperity, a veritable anachronism. But it should not hasten us to the conclusion that such has been the rôle of this old institution throughout its long existence of hundreds of centuries. Caste-system had its good points so long as it possessed a fluidity of character and did not stand in the way of natural change and progress. The first good point was that it introduced a system of division of labour in society with its consequent advantages of economic strength and efficiency. Then with its hereditary feature it provided a very cheap, efficient and healthy system of training to the young. The son by precept and example of his father and in the natural surroundings of the home learnt the secrets of trade and workmanship of the craft that his father plied and developed a sort of insight, initiative and skill in his hereditary profession, which were of great value in his after-life. The importance of such a system of training was all the more—when no regular and systematised arrangement for any other sort of training existed. The caste system also provided an already settled career in life to a member of society and much of uncertainty and wasteful competition that we notice to-day

was rendered unnecessary. These, then, were the chief economic advantages that flowed from the caste-system. But as referred already they were advantages only so long as the system had not acquired the existing rigidity and left sufficient scope for a healthy change over from one occupation to another according to special aptitudes and capacities. As soon as this fluidity was lost and the resulting harshness strangled all possibilities and attempts for a change thereby inhibiting the most natural process of growth, the system became an oppression inflicting a fatal cost for its so-called advantages mentioned above.

(The system claimed certain advantages in the field of social, political, cultural and religious life of man also. The caste-system helped to inculcate a healthy social ideal in the individual and gave him an opportunity to translate it into action when he was called upon to subordinate the considerations of individual gain or loss to the claims of his caste. The caste organisation to the Hindu has been aptly described as his club, his trade union, his benefit society and his philanthropic society. A man in difficulty always turned to his caste-fellows who well recognised their duties and responsibilities in the matter. The well-knit organisation of the caste also helped and enabled the Hindu society to face the shocks of political invasion without itself suffering dissolution. It also proved useful in preserving the cultural and religious traditions of the caste and saved them from decay and disintegration. Thus there is no doubt that castes had at one time a progressive rôle to play, but now it is equally undoubted that they have outlived their utility.)

Un the economic field the division of society into numberless castes has checked correspondence between aptitude and function binding every one to the profession that belongs to his caste by the inexorable law of heredity,

has encouraged and perpetuated immobility of labour thus making certain professions overcrowded and others underfed, and the facility of training that it provides to the young has also lost much of its utility in view of newer kinds of training having come in demand as a result of changed methods of production, and many of the older ones going out of it. Further the methods of production of the handicraft having been rendered stereotyped, they have prevented all progress of technique and organisation and as a result have condemned our rural crafts to a state of economic backwardness. The caste-system is again looked upon as a hindrance to the development of large-scale production because it stands in the way of that minute sub-division of labour which is the characteristic of the modern production, and also in some cases makes consumption localised and sectarian thus preventing a wide demand for any commodity.)

In matters other than economic also caste-system has lost much of its former value. To-day when the ideal of a nationhood is the need of the hour, differences of castes intensify the fissiparous tendencies in our country which also stand in the way of that fusion and inter-mingling of cultures which is recognised to be a politically, socially and culturally a very desirable consummation. The rise of the modern conditions of living with its facilities for individual investment and insurance on the one hand and its insistence on the responsibility of the state towards the old, the sick, the unemployed and the decrepit, the utility of caste-organisation as a benefit and insurance society is rendered superfluous and the rise of the spirit of individualism has made its working as such rather very difficult. To-day a youngman with his own aspirations and ambitions in life pays scant respect to the claims of his caste-fellows and often apt to attach much more value to his personal

relations formed outside the caste than to his caste-obligations. Caste with its principle of endogamy has been responsible for racial degeneration as a result of in-breeding on the one hand, and on the other it checks the attainment of sexual parity by preventing excess of one sex in a caste to make up the deficiency in another. This leads to a number of evils such as heavy dowries, infanticide and bad morals. The caste-system also acts as a check against the idea of dignity of labour as persons of so-called higher castes would disdain manual labour followed by lower castes. Last but not least the whole system in its present perverted form goes against the highly moral principle of equality between man and man and condones a system of traded hierarchy with its unwanted divisions of the superior and the inferior. Thus the caste-system in its present form must go.

The next important question, therefore, concerns the present position of caste organisation in India and its future. So far as the overwhelming majority of our population goes, the importance of this old social institutions has by no means diminished. It still exercises a very great hold on their life and the ways of living it. But the position of those who have come under the impact of modern civilization and the ideals and outlook on life it inspires is slightly different. The spirit of individualism that has followed in the wake of new thought and the spread of modern education in the people have loosened the social bonds of the caste-system. A greater freedom in matter of food, drink and also social intercourse is to be seen in them though inter-caste marriages are still a rare exception. Under the pressure of circumstances or in the hope of future progress many people have left their hereditary occupations and taken to new ones. The economic transition in the country, and the modern means of communications have

opened the self-sufficient village to the modern forces of change and thus contributed to the reduction of many caste-barriers. The modern school, the office and the business house have also their share in bringing about the necessary change. In brief the very spirit of the age militates against the conservatism of the caste-system, but it would be a long time before its full results are worked out in practice in our country. It is only with the progress of education with its levelling effects and the diffusion of a uniform standard of living and culture between persons of different castes, that the existing dominance of the system would slowly but steadily disappear and our society would get rid of this anachronism. No rapid and ready-made panacea would remedy the evil that has grown through all these centuries in the past. In this connection we should remember with much gratification the efforts made by different religious and social reform movements, particularly the Arya Samaj and the untouchability Campaign of Mahatma Gandhi culminating in his historic Poona fast. They have all been successful in arousing a consciousness in the people of the great injustice and irrationality involved in the caste-system in its present form, specially the highly inhuman system of untouchability existing in the Hindu fold. But the weight of centuries-old traditions is great and dies hard. And the evils continue to persist in a large measure even now. It is only with the passage of time and changing circumstances with more education that the Indian society would be free from this great stigma that attaches to it to-day.

Another important social institution that demands our consideration is the well-known joint-family system, which is very different from the individual-family of the west consisting only of husband, wife and their children. The Hindu joint-family on the other hand means living

together, with common kitchen, common purse and common worship, of a number of persons belonging to several generations generally three. The eldest male member in the family is in charge of family affairs and it is his will which with a moral sanction rules. It does not mean that the wills of other members of the family are totally neglected, but it is not theirs that is to ultimately prevail. The younger members of the family would often think it a pleasure and a privilege to subordinate their view-points to those of the family head. Similarly in matters of domestic and household management, there is a female head who rules. The earnings of all the members are pooled together and it is from this common fund that every one's requirements are fulfilled according to his needs. All live at a uniform standard of life without any consideration of their respective earning capacities. About the origin of the joint-family the generally accepted view is that transition from the pastoral to the agricultural economy involving a settled home and giving chief importance to the male member led to the establishment of the patriarchal family. Bonds of common kinship, religion and the exigencies of the old economy with its feature of hereditary occupations and undeveloped means of communications making place mobility out of question only helped and strengthened the system.

This old institution has several merits, both of economic and social importance. It makes possible a simple division of labour in the family, every one getting the work that suits his or her age and capacity. We find to-day also how the women and the children of a village agriculturist or an artisan are usefully engaged in helping the males in their work. Then living together, under a common roof and with a common kitchen means much economy in expenditure as a lot of duplication in expenditure and

establishment is avoided. The economics of large scale are easily availed of in a joint-family. The evils that flow from sub-division and fragmentation of holdings are also avoided where all landed property is held in common. In addition to the above economic advantages, there are some social merits as well which belong to the system of joint-family. It helps to inculcate amongst the members of the family the ennobling ideal of subordinating individual good to the larger good of the family. The good and socially desirable principles of self-sacrifice, sense of mutual help, discipline and obedience also get an opportunity to develop. Then the joint-family also acts as an insurance society for the aged, the sick, the orphan, the widow and the disabled all of whom are looked after in the family with necessary care and forethought and at the same time assigned work suited to their capacity and strength.

But under the changing circumstances of modern life the demerits of the joint-family are becoming more and more pronounced than its merits. In the economic sphere it has promoted stagnation and idleness as one who earns more does not get the full rewards of his earnings while the other who does not add anything to the family purse can also depend for his support on the joint responsibility. Thus a premium is placed on idleness and development of personality and enterprise is discouraged. This has produced a very un-wholesome effect on our population as well. Even those who have not the capacity or desire to earn their own living are married as marriage is looked upon more as a family concern than that of the individual and having the family resources to fall back upon do not care to exercise the least forethought in the matter of bringing in more and more children in this world. Thus the earnings of the few have to support the idle and the incapable and accumulation of capital is hindered. The division of labour that

is found in case of a joint-family, though good in the first stage of development when production is on the small scale, however, is a hinderance in the progress of large-scale enterprise. The social and moral ideal of the joint-family has also suffered a lot, and it has become a very common scene in case of the majority of the existing joint-families that internal quarrels and heart-bickerings have killed the atmosphere of peace, happiness and good will that was supposed to be an important feature of the joint-family life.

The causes that have led to the disintegration of the joint-family are more or less the same as we have discussed in connection with the caste-system. The spirit of individualism in the people is responsible for their lack of desire to carry the family burden that comes in the way of their personal pleasure and ambitions. The changing economic circumstances have forced young men to leave their ancestral home in search of employment thereby bringing about a dissolution of the larger family. The divergence of views and outlook on life that is a marked feature of our society specially because we are passing through a stage of social, economic, and political transition at present has brought about the break-up of so many families and has affected the peace and harmony of many more. The facilities of transport, spread of modern education, attractions of city-life and the desire to lead a free life amongst the young-couple have all contributed to the decay of this old institution. The tragedy of the whole situation lies not so much in the disintegration of the joint-family, which is inevitable under the new conditions of life, but in the fact that whereas the old order is breaking down the new order has not yet taken its place to bring about the necessary adjustment. To quote only one example, the joint-family as a system of insurance for the old and the disabled is already losing

ground, but no system of old-age pensions and other forms of social insurance has come on the scene. These are of course the pangs of a new birth but our misfortune is that they have been unnecessarily prolonged and intensified under the conditions of foreign domination.

Our laws of inheritance also merit some consideration in this connection, as they are said to possess some important economic consequences. Here it may be pointed out that originally the idea of property was fully consistent with the system of joint-family. The family property was a joint property belonging to all the members of the family, the head of the family having the right to manage it in the common interest. But with the passage of time the question of alienation or distribution of property arose, and various theories were put forth. There exist at present two important systems of inheritance in our country. According to the Mitakshra system all the members of the family including the sons even during the life time of the father are the joint-owners of the family property and the property continues to remain joint unless partition is insisted by any of the members. According to the other system of Dayabhaga the sons are not joint-owners during their father's life-time and partition can take place only between brothers and descendents of brothers, and not between a father and his son. The former system prevails throughout the country except Bengal where the latter holds good. "Amongst the Mohammedans there is no presumption of jointness, but the joint-family is not uncommon though under the Mohammedan law the owner of the property—whether ancestral or self-acquired—has full control over it during his life time only. After his death it devolves by succession on even a larger variety of heirs than under the Hindu law."* Thus it becomes clear that both under the

Hindu and the Mohammedan law the system of primogeniture, according to which the eldest son inherits the whole property, does not hold good excepting in the case of Indian States, their feudal subordinate chiefs and some zamindari estates. This means that in case of partition the whole property is distributed amongst a number of sharers. This has certain advantages as well as disadvantages from an economic point.

The chief merit that can be claimed for this system of inheritance is that it checks the tendency towards concentration of wealth in a few hands and ensures to this extent an equitable division of wealth. In case of landed property it favours the perpetuation in the society a class of independent peasant proprietors. Every one gets something to start with and helps him to earn more according to his capacity. But when carried to an excess, as is the case in our country at present due to our economic backwardness and heavy pressure on land, the system becomes an evil. Large accumulations of wealth are discouraged and thus enterprise and industry suffer. But the development of joint-stock organisation has mitigated the evil to some extent. The more serious evil is to be noticed in case of landed property where sub-division and fragmentation of holdings has been possible to an extent which has made our agriculture an unprofitable business. But here a 'caveat' needs to be entered. The real cause of sub-division and fragmentation of holdings is not our law of succession but our pressure on land, its share being only so much that it proves to be a helpful means in the operation of the above cause. Hence what is called is not so much a change in the law of succession but an improvement in our economic condition thereby reducing the present burden on land.

So far we have examined the economic effects of some of our important social institutions. Let us now come to the

study of religious influences on our economic life. There prevails a lot of loose thinking about this matter. Sometimes, for example, it is suggested that one of the important causes responsible for the economic backwardness of Indian people is their particular approach towards life which lays greater emphasis on the spiritual and other worldly-aspect while underrates the importance of the conveniences and comforts of this world. In the opinion of the present authors, as of many others, there cannot be a greater misrepresentation or misunderstanding of the Indian view of life. Every student of Indian Philosophy knows very well that if there is anything that is more important than the other about the correct appreciation of our history and our culture it is the balanced view point that the Indian thought has taken of the whole human existence. It is fundamentally wrong to maintain that Indian spiritualism has been fed at the cost of material welfare in life. The wonderful development that Indian art and industry was able to make in the past, India's great contributions in the realm of empire building, external trade, mathematics, astronomy, astrology, medicine and a number of other subjects, and her indigenous system of banking and credit, all these things give a direct lie to the above statement. Even now we find that those communities of all which are more orthodox and tradition-and-religion-ridden, such as the Marwaris including the Jains or the Bhoras etc., are also the foremost in amassing wealth and running most of our trade and industry in the country. Here it may be both interesting and instructive to point out that before the coming of the modern industrialism India was economically more advanced than the countries of Europe. This is also significant to remark that it is during the past two hundred years or so when India has been economically a backward nation that she has lost her old ground of pre-eminence in the field of religion and philosophy as well.

Thus to attribute India's present depression and economic weakness to her religion and her spiritualism is a hundred per cent. nonsense. It, however, does not mean that religion in India had or has no effect on her economic life. It is a fact that cannot be refuted that the religious thought and ideas of her people have influenced their economic activities also. For example her old handicrafts and the designs and craftsmanship relating to them bear a very clear impress of the religious beliefs and doctrines of the people. The importance and development of many industries, such as the bell-metal industries, in fact rest on their religious significance. Similarly even to-day we know, in many cases to our great cost, that much of the expenditure that we make on such occasions as of marriage, birth, or death, has direct relationship with our religious beliefs or social traditions which have paralysed or crippled the rational in us. So also is the case in matter of our hesitation to use and adopt many practices of definite economic value merely because somehow or other they offend our religious sentiments and dogmas. For example the objection to the use of bone, fish and night-soil as manure, or the unwillingness to take to certain occupations as poultry-keeping to supplement income from agriculture are of this nature. But having said all this the fact stands that to say that our religion and our anxiety for ensuring a safe place in the other world even at the cost of losing one in this world are responsible to a large measure for our economic degradation; is either gross ignorance or deliberate mis-statement.

But the above description cannot dispose of the outstanding feature of our life at present, the spirit of pessimism and fatalism that overpowers our masses as a whole. Their outlook on life is of forced resignation and lacks all signs of any creative interest in the present and hopeful-

ness in the future. Life is a burden to them which has come without their asking for it and they carry its dead weight out of sheer helplessness. They lack vigour, and enthusiasm. If all this is a fact, as it is, it must be fully explained. If the life and history of human evolution has any scientific lesson to teach, it is this that the objective conditions and circumstances of man and the society in which he lives ultimately determine his whole outlook towards life. It is an admitted principle of human psychology that amidst successful and prosperous conditions, the outlook of man is bound to be optimistic and hopeful, whereas under conditions of depression and poverty the opposite view of despondency and pessimism is to predominate. The pessimism that pervades the Indian masses to-day is specially the result of the unfavourable objective conditions that have surrounded him for the past few centuries. The climatic conditions of India that make agriculture, the premier industry of the country, a mere gamble in rains have bred naturally a mentality of depending on the Gods. The recurring famines and the accompanying distress especially in the absence of modern methods of famine relief as well as of minimising their occurrence by improved means of irrigation helped only to strengthen the same mentality. The political disorganisation that prevailed in the country during and after the disintegration of the Mogul rule made the whole life a highly insecure affair. And to top the list the foreign domination that has existed all these years has really bled our people white and the economic exploitation to which they have been subjected has been so severe that all hope of rehabilitation has vanished leaving a deep and dark shadow of frustration behind. The Indian peasant to-day cannot even persuade himself to imagine that a time may come when he would get the fruits of his labour. His economic condition has deterio-

rated and his poverty has made him weak to stand the various inroads on his health in form of disease, etc. Thus his whole outlook has become moribund and depressed and he feels no impetus and interest in taking an active and keen interest in the affairs of life. Political and social awakening in the country has to an extent aroused him from his deep slumber but he has not got rid of the depression yet. The real remedy that would transform and revolutionise his mentality is the political freedom of the country first, and an all-round scheme of national reconstruction, involving economic betterment of his conditions, second. Till this is achieved the present spirit of pessimism in our people is bound to persist.

CHAPTER V.

Economic Transition.

India is in a state of transition to-day. Her politics, her economics, her social and religious thought and action have all been challenged by the rise of modern conditions of life in the west, and a complete adjustment to them has yet to come about. Transition and adjustment are never an overnight process, and always involve some suffering and sacrifice. But under unnatural conditions of a foreign imperialism, the process in India has been unnecessarily long and her sufferings on that account have been hundredfold. We shall now study in the following lines the transition that has been taking place in the economic life of the country and her people.

Transition always means a change over from the old to the new. In order, therefore to intelligently appreciate the process of economic transition that has been going on in India, it is necessary first to review the old economic organisation that prevailed in the country.

The distinguishing feature of this old Indian economy was its predominantly rural character. It was in her villages, which far outnumbered her towns, that the real India lived as it continues to do even up to the present. It, however, does not mean that in the India of the old towns had neither any place nor any importance. On the other hand, there existed quite a good number of towns like Benares, Allahabad, Ahmednagar, Lucknow, Mirzapur etc., which possessed a country-wide and in some cases even world-wide reputation for their being either great religious centres, or seats of courts or commercial depots.

They had earned in a few cases an international fame for their luxury industries also. But in spite of all this the outstanding fact remained that the real life of India manifested itself in her numberless villages rather than in her handful of towns. Because it was there that as large a proportion as 90 per cent. of her total population lived. Thus village was the unit of our old economic order and our civilization was mainly a rural civilization. It is a fact that the Indian village had its counterpart in other countries of the world as well, such as the manor in England, the mark in Germany or the mir in Russia, but her sustaining capacity in face of so many disturbing factors has been claimed to be the greatest and the chief feature. About this we shall discuss somewhat in detail later on. Let us now pass on to the various characteristics that our old rural economy displayed.

The first point to be noted in this connection is the well-known self-sufficiency and the isolation of the Indian village. Our village in the past, as to some extent even now, was equipped with such an organisation of her economic and social life that practically all her day to day needs were fulfilled within the village itself. Trade with the outside and even with the other neighbouring villages was almost insignificant confined to such things as salt or some other luxury articles as ornaments, or fine clothes. The following description of this self-sufficient village may be quoted with advantage. "Such industries as are necessary to supply the simple needs of the village are prosecuted in the village itself. The Punjab village is eminently self-sustaining, it grows its own food, it makes its own implements, moulds its own domestic vessels, its priests live within its walls, it does without a doctor, and looks to the outside world for little more than its salt, its spices, the fine cloth for its holiday clothes, and the coin in which it pays its

revenue.”* What is said here of the Punjab village is true also of the other parts of India. And in the beginning of the 19th century the self-sufficiency of the village would have been even more as till then cash payments of revenue were almost unknown.

Closely allied to this factor of self-sufficiency and to a great extent as a result of it was the other characteristic; the isolation of the Indian village. It has been so often remarked by different writers on the old order in India that the life in an Indian village was so self-sufficient that it remained almost unaffected by what went outside it. There came about a rise and fall of Empires in India, political upheavals and revolutions took place in the country, but it is claimed by these writers that life in the Indian village maintained its even tenor undisturbed and unswerved. But there are other writers on the other hand who are prepared to accept this extreme isolation of our village in the past with much reservation and qualification. According to them, for example, it is impossible to believe that that political chaos and disintegration that followed in the country on the disruption of the Moghul Empire could leave the village entirely unruffled. There must have been plunder and looting, exactions and extortions and the rural economy must have received very rude shocks. This view appears to be, in our opinion also, nearer the truth. What in fact remained unaffected in our village was not the life in them but the basis of that life. The political chaos and confusion could not bring about any change in the form or type of our economy and this was because the objective conditions or circumstances that gave rise to this economy did not undergo any change in spite of all the surface disorders and changes in the political life of the country.

*Report of the Census of the Punjab (1881) quoted in *Industrial Evolution of India* by Gadgil, p. 10.

The chief cause of this self-sufficiency and to an extent and in a sense the isolation of our villages was the highly undeveloped stage of the means of communications. The position in this respect was better in northern India than in the southern. The river systems of the Ganges and the Indus with their tributaries were navigable to a large extent, and there existed a few 'made roads' also. But even the best kinds of roads were just practicable for carts. Whatever little the Mogul kings did in the sphere of road construction was, however, later on neglected by the East India Company which was more concerned with her profits than anything else. This unsatisfactory state of the internal system of transport produced two very important effects on the economic life of the country. One was concerning the prices which widely varied between one place and another and at times the fluctuations were sudden. Another was about the severity of the famines. For lack of necessary facility of transportation, in cases of failure of crops in one part of the country the surplus stock in the other could not be made available for it and thus conditions of extreme shortage on the one hand and of heavy surpluses on the other could exist side by side.

The next important feature of our rural economy was the predominance of agriculture over others as an occupation. In the absence of any statistics for the early part of the 19th century, we may take as our guidance the figures of the census of 1872 to form an idea in this respect. According to these figures, out of the total adult male population, as high a percentage as 68.5 derived its livelihood from land. But to clearly bring out the overwhelming importance of agriculture in India, we should also remember that besides the above population solely depending on land, most of the rural population though following an industrial occupation also had agriculture as

a subsidiary calling. And there is no reason to believe that the percentage of persons employed in agriculture was ever much less. Thus the place of agriculture as the premier industry of the country was well established in the past and the same condition continues up to the present as well. Agriculturists consisting of both the landowning and the tenant classes formed the most important section of the village-folk. Their condition differed between different parts of the country at the beginning of the 19th century, the differing political conditions in them being the cause thereof. But on the whole it would not be wrong to say that the economic position of the peasantry was depressed. They carried on agriculture in small open farms, and their equipment and methods of cultivation were of the primitive type, possessing small capital and a labour supply generally limited to the members of a cultivator's family. But the primitive standard did not always mean a bad standard of cultivation. In fact the practice of agriculture in the country differed widely from district to district and the circumstances under which the agriculturists worked had an important say in the matter. In the best cultivated tracts the standard was very high indeed. And even in places where the actual standard was low, not always the ignorance of the cultivators but their unfavourable circumstances were the cause. Thus scarcity of fuel in many cases compelled the poor farmer to burn the cowdung cakes, his most valuable manure; or pressure on land forced him to give up the practice of fallowing. The result of all this was that side by side the most developed agricultural methods there were to be found also methods at once slovenly and wasteful. So far as the nature of cultivation was concerned, it was dictated by the self-sufficient character of the village, and food-grains formed the bulk of the produce, though crops as oil seeds and cotton etc.; were also grown for local purposes. Cotton and sugar-cane, however, were the two

important crops which were localised for cultivation as conditions suitable for their growth could not be everywhere found to the same extent.

Though agriculture was the main-stay of the greater section of the village people in India, it would be wrong to assume that industries and the industrial population occupied no place in the old rural economy of the country. Every village in fact, possessed a class of village artisans such as a carpenter, a blacksmith, a potter, a cobbler, a weaver, an oilman or a dyer. Some of these rural artisans belonged to the category of village servants while others were independent. To the former division belonged such artisans as the carpenter, the blacksmith, the potter or the cobbler etc., whose services were regularly required in agriculture, whereas to the other group were classed those artisans, as the weaver, the oilman or the dyer, whose services were only occasionally required. The chief point of difference between the two groups of village artisans consisted in their respective modes of payment. The village servant class of artisans had usually their own plots of land granted by the village rent-free or at a reduced rental and one of the chief sources of their income was the payment of customary dues consisting of a fixed share of the produce of the fields. They were thus not paid by the job. And it was only for such things as the sugar-press, or the cart that an extra payment was made. The independent group of artisans, on the other hand, was paid by the job and the payment was generally in kind. Though this two-fold division of rural artisans applied to all villages, but there were differences in the constitution of the two groups between different parts of the country. A certain artisan who was a village servant in one part of the country, might be an independent person in the other. Another fact to be noted in this connection is that every village did

not necessarily possess all the different artisans. For example the presence of the weaver was not found in every village, only the more important one requiring his services. As the class of village artisans was a hereditary one, it stereotyped the whole life of the village. The village-servants-system of the rural artisans was a special feature in India which gave a peculiarly compact form to our village community. The fact that every village had its own class of artisans for whose services the village community did not depend upon outsiders lent to our rural industry certain features of its own. As every artisan was to do the whole job concerning his occupation himself, there was no specialisation or division of labour existing in case of these rural handicrafts. Hence the workmanship of the artisan was not of high order. Similarly because of the self-sufficiency of the village there prevailed no localisation of rural industries also. Thus the condition of rural industry was backward. To give a full picture of the self-sufficiency of an Indian village it is also essential to point out to the existence of the two other classes of village officers and village menials which were an integral part of the village constitution. In the former class came the village headman or patel who was charged with the business of maintaining peace and order in the village and the collection of revenue. He held a plot of land by way of remuneration for his services. His importance was great in ryotwari village. The village accountant or Patwari is the other important village officer who was responsible for keeping village records and accounts about land. And last but not the least important was the village watchman or chaukidar who was to report crime, arrest offenders, and help the police. In the old days, as is well-known, most villages possessed their village panchayats which rendered cheap and quick justice and kept the whole community together. The class of village menials included persons like the

village washerman and scavenger. They also belonged to the class of village servants, which thus was not confined to certain artisans of the village only. Besides these, every village had a holyman known as the priest or the purobit or the astrologer and a village money-lender or bania who combined generally the business of money-lending with trade and was the grain-dealer of the village. The above description of the composition of an Indian village thus clearly reveals the fact in addition to the all important class of agriculturists, there existed three more distinct groups in the village population. The highest stratum consisted of the priest and the accountant; next came the artisan group, and lastly there were the village servants such as watchmen, scavengers etc., who formed the unskilled labour class, their small plots of land, wherever they possessed them, being insufficient for their needs. They were mostly labourers, though they occasionally combined with their day-labour, occupations like coarse weaving, basket making, or mat-weaving.* ✓

Certain other characteristics of the old village economy in India also need our notice. Absence of money was one of them. It was the barter economy that prevailed with grain as the most important standard of value. With limited wants, restricted trade and the well-known village sufficiency, money as a medium of exchange was not much needed and hence its non-existence. Even the payment of land revenue was not made in cash. The immobility of labour and their conservatism were even much more pronounced than now. Villagers never liked to leave their ancestral home and migration of labour from one place to another was practically non-existent. Custom and status rather than competition and freedom

*See Industrial Evolution in India by Gadgil pp. 164-65.

were the two important determinants of man's economic and social position in society. The joint family and the caste-system left little freedom to individuals to decide upon their status and occupation in life. They were determined by his birth in a particular family and a particular caste. This overwhelming importance of custom in comparison to competition was found to exist in the countries of Europe as well as England also before the coming of the Industrial Revolution. Thus in the India of the past rent wages, and prices were regulated by custom, and on the whole the regulation in each case turned out to be fair to the two parties effected in each case. For example we have already noticed that the village artisan was paid a fixed share of the produce in the shape of grain allowance. In other cases also the labourer was supplied with board and lodging in the house of the employer or received fixed payment in kind. So was the case with prices, though in abnormal times of great scarcity or surpluses competition prevailed upon the custom and prices responded to condition of demand and supply. One point, however, is important to be stressed when we talk of custom as opposed to competition. Between the two ultimately there is no inherent antagonism. Even a prevalent custom has behind it the sanction of certain objective conditions that work under competition also. The only difference between the two being in the quickness with which response to changed circumstances takes place. In case of custom the adjustment and response is slow and tardy whereas in case of competition it is quick and more apparent. Thus we often have changes in custom, as well as competition also takes some-time before it can work out its result in full. So far our discussion related to the rural economy of India as it existed in middle of the 19th century. Let us now come to the town economy under the old order in India.

As pointed out above the rough estimate is that at the beginning of the 19th century about 10 per cent of the total population in the country lived in towns. The most important cause responsible for the rise of these towns was their being a seat of either an Imperial or a provincial court. Delhi, Lucknow, and Lahore were some of the examples. The importance of several towns was due to their being religious centres. Benares, Allahabad, Gaya and Puri were examples of this class. There also existed a few towns as important trade centres. Mirzapur, Hubli, Bangalore etc., belonged to this category. But as trade was not extensive, the growth of towns owing to this cause was not large. From an economic view point the dominant feature of these Indian towns was that they did not owe their origin to the existence and development of industries. It, however, did not mean that there were no industries in towns. In fact every town had its industrial population. The religious centres like Benares possessed brass, copperware, and bell-metal industries. Such vessels were manufactured as were used for purposes of worship and religious ceremonies. Art and luxury industries were the special features of court towns. Wire and tinsel industry, fine textiles, embroidery, fine gold and silver work, ivory and wood-carving and enamelling of wares had attained a very high standard of workmanship. It was for these art and luxury industries of the towns patronised by the courts that India had achieved a world-wide fame. The Dacca Muslins, Mushidabad silk goods, and Kashmir shawls are a few illustrations. The existence of court was an essential condition for such industries. They were also much better organised than the rural industries.

Coming to the main features of the economic life in towns, we find that they differed from those of the village life. Towns were not self-sufficient and isolated like villages.

Corn was imported from the neighbouring villages. The town population also displayed a greater variety of trades and occupations and the organisation of their industries was much better. In the bigger cities each craft was organised into a guild which looked after the welfare and the quality of the work of its members. The craftsman, as is the case with handicraftsmen everywhere, worked to order and on the materials supplied by his customer. On account of the supply of raw materials or other causes, there existed localisation of industries in some cities. However, the chief feature was the local demand. The outside demand excepting in rare cases was insignificant. The towns also possessed a sound credit organisation in the shape of indigenous system of banking and a greater use of cash was made in business transactions. There was a greater development of trade in cities, and business with outside India was also existent. Such was in brief the town economy of India before the new forces of change were let loose and brought in their train much distress and disappointment. We shall now examine these factors that were responsible for the economic transition in the country that is still not complete.

The new economic order as distinguished from the old towards which a change is taking place in India was the result of a fundamental change in the economic organisation of the world that first displayed itself in England in the later part of the 18th and the early one of the 19th century. To this basic change in the economic order of society the name of Industrial Revolution has been given. The justification for calling this change which spread out itself over a number of decades by the name of revolution lies in the fact that conditions of economic life preceding and following this great transformation were basically different from one another. We would now study this Industrial Revolution a bit in detail.

First about the form of this great transformation, and the different fields of economic life to which it applied. So far as the form or nature of the changes that were going on during this period in the economic life of society is concerned, it meant, to put in one word, the substitution of the large-scale production for the small-scale one that was in vogue till then. This large-scale production naturally involved greater use of machinery, and of capital, greater specialisation and division of labour, concentration of labour in large factories and the growth of many new industrial towns with all the concomitant evils regarding health, sanitation, and morals that were bound to result in view of the sudden and rapid changes, uncontrolled by any plan or design, which were taking place. There came about a divorce between the owner of the productive enterprise and the actual worker who was left free to be exploited by the capitalist employer, and the whole social fabric thus came to be more strikingly divided into the two conflicting classes of the 'haves' and 'have-nots'. The change came about both in the field of industry as well as agriculture and its nature was the same. Just as in the field of industry it meant the rise of the modern factory, so in the field of agriculture also it meant the replacement of small-scale agriculture by peasant proprietors or tenants on the primitive lines by large-scale farming on more scientific lines and with greater use of capital and machinery in the art of cultivation. Large estates concentrated into the hands of a few landowners managed by capitalist farmers and cultivated by hired agricultural labourers was the result of this transformation in agriculture known as the agricultural revolution. The profitability of agriculture because of the rise of industrialism, the growth of population and the enlarged demand for foodstuffs was the main cause of this agricultural revolution. The causes that led to the rise of modern industrialism in England before in any other

country of the world were many, the more important of them being : (i) The comparative abundance of surplus capital a large share of which was the result of India's exploitation by Britain (ii) A similar abundance of skilled and unskilled labour, (iii) The existence of markets involving an ever-growing demand for British goods. The political hold of England over India and other parts of the world gave a great impetus to this demand for English goods. The commercial revolution of sixteenth and seventeenth centuries caused by the discovery of America and the all-sea route to India was also an important factor that widened the extent of the markets. The policy of religious toleration welcomed the immigration of foreign artisans thus increasing the number of skilled labour, (iv) A comparatively early breakdown of the guild system and the enlargement of the control of domestic industry by merchant-manufactures, rendering easier the transition to the factory, (v) And last but not least the comparatively early and rapid progress of mechanical inventions without which modern factory system would have remained still-born. The early development of banking and credit was also a further contributory cause. Another field in which the modern improvements took place was that of transport. These improvements, in transport began in the middle of the 17th century in the form of the construction of turnpike-roads and river canals. The progress was slow in the first hundred years and a little rapid in the later hundred years. After 1825 when the first railway in England was built, a further stage in the development of transport was set in which was also accompanied by corresponding improvements in water transportation, especially such as arose from the substitution of iron for wood as material for ship building and the introduction of steam power in navigation. It is more than obvious that the improvements in transport were essential for making the modern farm and the modern factory a real

success. The doctrine of *laissez-faire* advocated by Adam Smith and others after the decline of mercantilism in England helped all these developments in the fields of industry, agriculture and transport a good deal. It was the popularity of this doctrine that gave full freedom for the working out of the new forces of capitalist production entirely uninterfered by any kind of state action in the interests of the weaker class to which these changes in the economic order brought nothing but distress, disease and starvation. These then were the forces that gave rise to the present western civilization in contradiction to the old one. The characteristics of this new economy has been well summarised by Morrison under the following headings (i) Freedom of contract and competition, (ii) Close interdependence between different parts of the world made possible by improved means of transport and communications, (iii) A comparatively even distribution of population among different occupations with agriculture occupying an unimportant place and the consequent predominance of urban over rural population, (iv) A greater and more complex division of labour, (v) Large-scale factory production, (vi) Displacement of barter by money economy, (vii) Development of credit and banking*. And as already remarked it is towards this new economy that transition in India has also been taking place for last hundred years or so. We shall now trace the causes of this transition and the extent of it in different fields of our economic life.

The most outstanding event of the Indian history of the recent past has been the establishment of the British rule in the country. And one feature of this foreign domination on our land and our people which is more important than any other has been a criminal negligence of India's

*Jathar and Beri: Indian Economics (1941) Vol. II pp. 126.

real interests and the welfare of her teeming millions in order to protect and perpetuate as well as enhance the exigencies of a foreign imperialism. It is this feature of the British rule in India which runs like a red thread through all the principles and policies that the Government have followed from time to time in the administration of the country. And the story of our economic transition also unfolds the same bitter truth and has been overshadowed by this unhappy circumstance. The establishment of the British rule in India brought in its train a centralised administration, and a new judicial and revenue system all of which were important factors that operated towards an economic transition from the old economy described above. But the most important and immediate cause of this transition was the opening of the country by the road and the railway. It was on account of the development of these modern means of transport and communications that not only the working of a centralised administration with the new judicial and revenue systems was made possible but the whole country was brought in close contact with modern methods of production and exchange. Indian markets were thus thrown open to the goods of foreign manufacture and our supplies of raw materials brought closer to the west thus affecting the whole economic life and organisation of the country in an adverse manner. These then were the causes of economic transition in India and why this transition took a definitely harmful direction, different from the one that was the case in England or other countries of the world, so far as our interests were concerned; is to be explained by the existence of a foreign rule in the country. We shall now discuss the features of this transition as affecting the various aspects of our old economy.

The one basic factor of the old order in India, as we have noticed, was the self-sufficiency and isolation of the

village. This has now undergone a change to a great extent. To-day an Indian village imports not only from other parts of the country but also from outside several articles of its daily use, such as its cloth, kerosene oil, aluminium wares, matches, umbrellas, medicines, mirrors, bangles, and many other things. The contact with western ways of living has created a demand for all these things, and the decline of rural crafts and a change over from the village to the international economy as a result of new influences have made the outside supply necessary and feasible. And with the loss of self-sufficiency has gone also the old isolation of our village. Now it feels the repercussions of outside events concerning the economic and the political life much more than before. It pays its share of a world depression and benefits from a rise in prices of its produce in the world markets. The administrative centralisation has been responsible for the decay of the old village panchayat thus making short work of the old autonomous character of the Indian village. And the recent experiments in decentralisation for various reasons of finance, and personnel as well as of the lack of a really sympathetic and encouraging attitude of the central Government, have not yet proved to be very successful. What is to be lamented is not the disappearing of the old self-sufficiency and isolation of the village but leaving it unprotected to the free and full play of modern forces that have worked to its disadvantage and economic destitution.

This change in the self-sufficiency and isolation of the villages have also produced two side effects about prices and famines. There is to be found now a much greater uniformity in prices in different places at the same time as well as between different times in the same place because better transport facilities have worked for the equalisation of the forces of demand and supply to a great extent by

making the surpluses of one place or even country available to reduce the shortage of another, and also by widening the extent of the market with a much greater capacity of adjustment to changing conditions of demand and supply. Regarding famines also there has come about a great change. They are now not so severe in extent and intensity both as shortage in one area can be made good by imports from others. Thus there has taken place a great change in the character of famine itself. Under the old economy it was both a food and a money famine but now food famine has disappeared and only money famine remains. It means that in times of scarcity also, one need not go without food if he has the wherewithal to pay the high prices for it which are the result of prevailing shortage. The old village grain-stores have also now disappeared, because the village does not need them as it can draw in times of deficiency upon a much larger grain-store co-extensive with the whole country.

The next point is about the place of agriculture in the present economy of our country. So far as the preponderance of this over other occupations is concerned, there has come about no improvement in the situation. If anything, the position has further deteriorated. The most important reason of this ruralisation of our country has been the destruction of our handicrafts and lack of other alternative means of livelihood for our increasing population. It need also be pointed out in this connection, that this feature concerning the progressive ruralisation of the economic transition in our country is at direct variance with the tendency of urbanisation noticed in case of other countries in which there has come about a change from the old to the new economy. Regarding the economic position of the peasantry also, all evidence is against any improvement being made during the past hundred

years or more. In fact the poverty of our people to-day is a more potent fact than it was ever before. The methods of cultivation have also undergone no change for the better. The same old system of open field cultivation with very poor equipment has continued to this day. The use of improved implements, better fertilizers, better seed and the application of science in so many other respects to the agricultural economy of our country still remain a day-dream of our reformers and agricultural experts. The cultivation in India is still the work of a small scale producer and the increasing sub-division of land that has taken place during all these years has simply worsened the situation. Thus it is clear that so far as the importance and methods of agriculture are concerned, the economic transition in India has introduced no new tendency except that there has been a progressive deterioration in these respects thereby affecting the economic position of the agriculturist adversely. But there are certain other matters in relation to which the agricultural economy in our country has undergone certain changes. The first change is about the nature of cultivation. The old system based on the principle of self-sufficiency has broken down and production for sale has taken its place to a great extent. For want of a better name, this change in agriculture has been called the commercialisation of agriculture. The development in the means of communications, and the introduction of cash economy, first in the form of cash assessments, were the two important causes responsible for this change. Not only building of railways in India after the middle of the 19th century, but the opening of the Suez Canal in 1869 opened the world markets to India and production for sale became a practicable proposition in the Indian economy to an extent it was never before. The claims of the money-lender and the payment of Government revenue were the other compelling circumstances for the agriculturists to

market his crops immediately after harvesting, no matter even after a few months he was to go in for the same crops to meet his own requirements of consumption and seed. The cotton boom experienced in the sixties of the last century due to the American Civil War when exports of American cotton to England almost ceased also gave a great impetus to the extension of cultivation of cotton in India thereby helping the already existing movement of commercialisation of agriculture. The initiation of large irrigation works in the Punjab, the United Provinces and elsewhere by the Government has also been a factor to be reckoned with. Another feature of the change was to some extent an extension of the area of some industrial crops under cultivation, and a specialisation in crops grown in different districts. But the displacement of food-crops by industrial crops, though took place in some tracts, was not the main feature of the change. There was no doubt to some extent a redistribution of the proportions of different crops grown in different parts of the country according to their respective suitability, but the change in total proportions for the whole country was not great. The main direction of the change consisted in the basis of cultivation, from a self-sufficing to a market economy.

Another change noticed in the field of agriculture has been the transference of land from the agriculturist to the money-lender. This was the result of growing indebtedness of our rural population. We shall discuss the problem of this indebtedness in a separate chapter. The growth of population and the resulting increase in the land-values by 1860 initiated this harmful process of the dispossession of old peasants by money-lenders and until the end of the 19th century the process was constantly on the increase, and it has not ceased to operate even now in spite of Government's efforts for the purpose. In fact

a new tendency regarding the rise of a money-lender's class amongst the agriculturists themselves has developed of late.

The increasing sub-division and fragmentation of holdings is the third baneful feature of economic transition in Indian agriculture. We shall devote greater attention to this question elsewhere.

And last but not least is the somewhat anomalous question of the scarcity of rural labour in our country. We call this an anomalous problem because on the one hand we have the standing menace of increasing pressure of population on land for want of alternative occupations, and on the other there is this cry of scarcity of agricultural labour. But our study of the nature of this scarcity would solve the anomaly all right. The one important point about this scarcity is that it exists only at the time of harvest when the extra labour of the small cultivator and his family available at other times is also not free. In certain parts the emigration of rural population to cities may also be a factor in the matter. But our industrial backwardness is a sufficient proof that it cannot be an important cause on the whole. A third cause has also been suggested that the substantial farmer has given up working in the fields and engages hired labour for the purpose thereby increasing the demand for labour. Anyway scarcity at the harvest time is not inconsistent with the existence of a heavy pressure of population on our land. These then are the changes which have marked the transition in our agriculture, and the total effect of them has been a further destitution of our rural population. We shall now trace the effects of this transition on our country artisan.

We have seen earlier in this chapter that the bulk of the industrial population of India consisted of country

artisans who either belonged to the class of village servants having a fixed position in the village economy or to the independent class. The importance of these country artisans was also great. The process of economic transition in our country which has been going on has, however, affected them in more than one way. Though it is a fact that even to-day an Indian village possesses its complement of village artisans such as a blacksmith, a carpenter, and a potter (and other village servants like a washerman or a barber as well) yet, their importance and their fixed position in the rural economy have already lost much ground. Besides this there have set in other tendencies of change also. For example to-day in place of customary yearly payments, payment by job is gaining ground though the former has not altogether died. Similarly payment in kind is yielding place slowly but persistently to payment in cash. This is owing to the increasing importance of cash economy in our villages. The importance of the plot of land that the hereditary artisan held has also decreased a good deal. Then we have the growing willingness on the part of the country artisan to migrate to and concentrate in larger villages and towns. This tendency is noticed, naturally, to a greater extent in the case of those artisans whose presence in the village for the agriculturist under the changing circumstances has been rendered much less urgent or whose wares are such as can stand the strain of carriage from a distance. It is, thus, because of his urgency that the carpenter or the blacksmith still exists in the village to repair an agricultural implement at any moment. So is the case with the potter whose wares cannot be brought from a distance, and with the tanner in villages where well-irrigation and leather buckets are common. On the other hand the dyer, or the weaver are the least necessary and signs of concentration in their cases have been the

greatest. The goldsmith has also sailed in the same boat. In case of rural artisans whose industries suffered either because of foreign competition or other causes two other tendencies were noticed. One was their joining the rank of a day labourer and the other was to migrate to towns in search of employment. Lastly in case of many artisans it was seen that giving up their hereditary occupation they took to agriculture. This in brief is an account of the transition that has been going on in the field of village crafts. Before, however, we close this account there are two more points that need our attention. First is that the position of different artisans has been affected differently. Let us discuss this a bit in detail.

We have already referred that the demand for the village blacksmith and the carpenter has continued to this day. Of the two, however, the position of the latter was more adversely affected than that of the former in places where improved agricultural machinery was coming more and more into use. In cases where the blacksmith or the carpenter migrated to towns, his economic position certainly improved. The development of cutlery trades, and the growth of engineering workshops created a demand for the former, and the building trades, coach and carriage making, and small furniture industries created a demand for the latter in the towns. As the demand for these two classes of artisans is not increasing in the village, any growth in their numbers must be absorbed either by other occupations or by demand for them in the towns.

Though the villager potter has still has place in our rural economy satisfying the need of the poor villagers, but the increasing use of brass and copper-ware and aluminium utensils by the well-off people as well as by others under the pressure of changed tastes and fashions to some extent has affected the village potter unfavourably. And

wherever the poor man has lost his hereditary job, his only alternative has been of taking up the work of an ordinary agricultural labourer.

The lot of the village tanner has been hit the hardest because of great demand for our raw hides and skins in foreign markets and a consequent rise in their prices. His only alternative has been either to join the urban tanning industry or the rank of agricultural labour.

The story of the oilman is also not different. The export of oilseeds from India, or the growth of an oil-pressing industry in the towns did not affect him much, but the use of the kerosene has certainly hit him very hard. ✓

Coming to the weaver and the dyer we find that they had also to face difficult times. Though hand weaving is not an extinct industry even now, yet there is no doubt that his sufferings, especially in case of finer kind of goods, owing to the competition of foreign and home factory manufactures as well as loss of foreign Asiatic markets such as Java and Persia, have been enormous. The competition of the factory has been felt the most in case of medium count goods, the very fine goods such as the embroidery work, shawls and carpets and the coarser kinds of cloths retaining their position to a great extent owing to their peculiar advantage. The use of mill-spun yarn in hand weaving has also helped the industry to survive. This decay of hand loom weaving in our country has taken place at different times in different parts, but in all parts of the country at one time or other it reached its zenith and since then the position has been more, perhaps, of stagnation than of further deterioration. The country weaver here has certainly suffered more than the urban one as the latter had better organisation. The competition of the foreign aniline dyes from the latter part of the 19th

century, and the ease with which they can be used by anyone at home, the production of dyed yarns by mills, and lastly a change in the tastes of the people—all have made the position of the dyer a difficult one and the industry has declined. But the worst sufferer among all these has been the hand-spinner though of late years under the great leadership of Mahatma Gandhi, All-India Spinners Association have done a lot to encourage hand-spinning as well as weaving. To sum up we can say that the rural industry to-day is in a stage of flux and most of the artisans have had difficult times which are by no means over.

The second point to which a reference is necessary concerns the fact that in so far as the country artisan has survived up to this day there has been little change in his organisation or methods of working. Only those who migrated to towns have improved their organisation and economic position. There has come about only a little adaptation to new conditions in some cases as the use of mill-yarn by the weaver, ready-made iron and tin sheets by the smith, sewing machine by the tailor, and improved implements by the carpenter.

To complete the full picture of the constitution of an Indian village in transition it need also be mentioned that the class of other village servants such as a scavenger or a washerman, and of village dignitaries as a Patwari, Patel and Chowkidar, as well as other persons like a money-lender and a Purohit form an integral part of the village even to this day, though there may already be working forces that might ultimately undermine the position of some of them as the money-lender or the purohit. But such a consummation would take at least a few generations from now. The class of village officers on the other hand has been integrated into the system of British administra-

tion and their position has been thus strengthened. The washerman and the scavenger have their security, particularly the latter, in their unavoidable need. The existence of a village Panchayat that controlled the village life in its multifarious aspect has, however, suffered much due to centralised administration of the British. Recent attempts at decentralisation have so far been not very successful for a number of reasons.

We have described the predominance of barter, custom, and status rather than cash, competition and freedom as other important feature of our old village. In connection with all these matters we find that a slow and regular change has been taking place. The growth of individualism, and break-up of our self-sufficiency and isolation owing to the modern forces already referred to, have introduced cash economy in our villages and competition and contract to-day regulate the rent, the price, and the wage in our villages much more than they did in the past. This then is the full picture of an Indian village in transition. We shall now proceed on to the town economy.

The first striking fact about the town economy in India is that the net result of the various forces working for and against the growth of towns has not been any increase in our urban population, though in recent years the tendency has gained some ground. This is in strong contrast with what has been noticed in case of other countries *e.g.*, England, where transition from the old order meant a rapid rise in the urban population. The chief cause for this contrast has been that the economic transition in our country has undergone under most unnatural and anti-national circumstances. Whereas our old handicrafts in the towns declined, there did not take place a corresponding development of modern industry on a sufficient scale. Hence instead of urbanisation ruralisation was further

intensified. Thus if the development of railway and the road, growth of new industries, attractions and advantages of urban life regarding living conditions, health and education, and loss of occupations in the villages helped the growth of towns on the one hand, the decline of old towns due to a decline in their commercial importance, or a decay in their handicrafts as well as difficulties of town-life on the other discouraged the former tendency of the growth of the new towns and the opposite tendencies have more or less balanced each other so far. There is only one change that attracts our attention, and it is that, however small the number may be, but there have grown a few towns like Bombay, Jamshedpur, and Cawnpore because of the rise of the modern industry, a cause that was conspicuous by its absence so far as the rise of old towns was concerned. The most significant change brought about in the town-economy of our country has been the ruin of the old handicrafts. This decline though in some cases began as early as the end of the 18th century, became more marked about the middle of the 19th century. The various causes that led to this decay may be summarised under the following heads:

(i) **The disappearance of courts:**—It was the one cause that was more important than any other responsible for the decay of our old town handicrafts. Because a very important source of demand for the products of these handicrafts came from the princes and their courtiers. And when this source of demand dried up with the disappearance of the courts, a slow but steady decay of the handicrafts set in.

(ii) **Foreign influences:**—This was another important factor that brought about a deterioration of the handicrafts. This factor was the result of the establishment of an alien rule in the country. With the coming of the

British, the place of the courtiers and the nobles in the Indian cities was taken by two new classes of people, the European officials and tourists, and the English educated Indians belonging to the professional class. The effect of both these classes on the handicrafts of our country was harmful. Though the European officials and tourists showed some demand for our handicraft products and to meet this demand production was carried on thereby arresting that decline which was the result of the stoppage of the former demand of the courts, but this new demand was for cheaper goods not of indigenous forms and patterns but of the new ones that the Europeans introduced. This naturally meant a lowering in the standard of workmanship as the producers did not quite understand the western patterns and their attempt to copy them was only a lifeless effort, adversely affecting our old artistic beauty. The story of the English educated Indians is, however, still more distressing and to an extent shameful also. Their education produced in them what Mahatma Gandhi has so characteristically called 'slave mentality' and their distinguishing feature came to be the despising of all that was Indian and taking to heart all that was European. They, therefore, completely turned their back on products of indigenous art crafts and thus made themselves responsible for the decay of a great national industry. The British rule was responsible for killing our industry in other ways also. The policy of disarming the Indians adopted by the British Government as a farsighted political strategy destroyed the important handicrafts concerned with the production of weapons as well as their damascening and inlaying. Similarly the establishment of the British rule weakened the power and organisation of guilds that regulated the quality and working conditions relating to handicraft production and thus indirectly helped its decay.

(iii) **Competition of foreign goods:**—Though this cause was less important than the other two previously described, but it was sufficient to drive the last nail in the coffin of Indian indigenous industry. It mainly affected the textile industry specially the finer production. The goods of Lancashire and Manchester were the hardest competitors and though in quality they could not surpass the Indian products, but their trump card was the low price at which they were sold in the market. The tendency, that we have already referred, of preferring everything non-Indian which was on its increase helped the foreign manufactures a great deal in competing with the Indian products.

So far our discussion has been confined to the luxury and semi-luxury industries of the towns. But besides them there flourished in olden times a few other industries also, such as the iron industry, the glass industry, the paper industry and the saltpetre industry. These industries which were localised chiefly because of the existence of their respective raw materials in particular localities were also in the process of decay for a number of reasons, and the competition of the foreign goods was an important one operating in the case of a few of them, such as the glass, the paper and the iron industry.

An important change in case of these town handicrafts which survived has been in their organisation. There has come about a gradual decline in the position of the independent artisan who has lost his independence to a capitalist trader to a greater or lesser extent. In some cases the loss has been complete and the producer works only as a wage slave on the raw material and with the tools supplied to him by his master. In other cases, however, the loss of independence has been partial, the worker retaining control over his tools or even upon the goods

he produces though for the sale of which at an agreed price he had been bound to the supplier of his raw material. This loss of independence has been to a greater extent in the higher kinds of industries. "Where little capital was required and consumer was near at hand, the independent artisan system still survived. Where the raw materials were costly or the consumer was far removed or the demand a seasonal or an uncertain one, the worker's subjection to the middle man was almost inevitable."

(iv) **The policy of the Government:—**No account of the decay of the Indian handicrafts will, however, be complete unless a reference is also made to the highly disastrous policy that the British Government in India pursued all these years regarding our economic welfare. The East India Company not only adopted an attitude of masterly indifference towards the progressive destruction of our old handicrafts and did nothing to mitigate or minimise the travails of a new order that was in the process of birth, but by means of a deliberate tariff and railway rates policy suited to the exigencies of imperialist finances and industry aggravated these travails hundredfold and gave a fundamentally wrong direction to the whole process of economic transition going on in India. The tale of the East India Company's excesses in form of prohibitive tariffs on Indian goods in England, free imports (or almost free) of British goods in India, making the use of a certain class of Indian fabric (dyed Indian calicoes) in England a penal offence and subjecting the Indian craftsman to a most cruel and inhuman treatment so as to prevent him from plying his trade that might harm the British manufacturing interests at home, is a most woeful one. In one word the political subjection of the country was naturally used for a most shameless exploitation of our men and our resources and we were forced to grow more and more raw

material for exporting to foreign countries to be imported back into India in form of finished goods and articles of consumption. This is then the full story of the decline of our town-crafts which at one time were the very envy of the whole world and which had also won for India the much popularised title of a 'golden bird'.

Before closing this chapter on the economic transition in India, it would be both interesting and instructive to make a comparative study of it as it took place in India as well as other countries of the world. To select England as a specimen case, we find that the rise of the forces of modern economy there though involved the destruction of the old handicrafts as it did in India also, but unlike our country there simultaneously took place a very rapid development of the factory industries which absorbed the workers displaced from the old crafts. Thus the sufferings of transition were much less, and whatever they were, they found their full compensation in the unleashing of the new forces of capitalistic production. In India, the development has not been on identical lines. The growth of large-scale industrialisation in the country has been extremely slow for reasons that we shall study in a later chapter, and the only natural result of the displacement of labour from its hereditary occupation has been an increase in the pressure on land. Our foreign trade has increased more than our internal trade and for a long time the tendency of the foreign trade has been exports of raw materials and imports of finished goods. This is in direct contrast with the composition of the foreign trade in other countries that were set on the road to new order and economy. Thus to conclude the whole discussion we may emphasise even at the risk of repetition that whereas in other countries transition from the old to the new economy brought in its train a vista of new prosperity with new and prosperous industrial towns,

in India the whole process has been simply painful bringing with it utter destitution of our people and ruralisation of our country. Further, it has been so not for any inherent defects that the Indians possessed but owing to the existence of a foreign-imperialist domination that has controlled our destiny to suit its own pre-determined motives and designs. And only an independent and national government looking after the welfare of our teeming millions, would be effective in stopping this cold-blooded massacring of our interests and our aspirations that has unceasingly continued for the past so many centuries of our history.

CHAPTER VI.

AGRICULTURE (GENERAL).

The place of agriculture in Indian Economics :—

The most striking feature of Indian economic life is the overwhelming preponderance of agriculture. 72.9 p.c. of her population is directly dependent on it for its livelihood and a large number of village artisans and menials are indirectly dependent on agriculture for their maintenance. In fact the whole economic structure of India is based on agriculture which is the national industry of this country. Its importance in our economic life can be easily understood by the fact that the year agriculture crops fail in India on wider areas due to drought or any other reasons the whole economic organisation is rudely shaken and paralysed. With the failure of crops the purchasing power of Rural population shrinks and demand for manufactured articles shrinks with it. Indian mills and factories find that the demand for their goods has disappeared and they face depression, Railways run at a loss because they get less goods traffic and the rural population cuts down its pilgrimages. Export dwindled because of bad harvest and imports shrink because of low purchasing capacity of large section of Indian population. The trade is dull and unemployment becomes acute. State finances also become bad as land revenue cannot be raised and large amounts have to be spent on famine relief work to save the population from starvation and misery. This shows how utterly India depends on agriculture.

Agriculture provides all the food grains consumed in the country and yields large quantities of raw materials for being manufactured in our mills and factories and also

to be exported abroad to pay for our imports. This preponderance of agriculture in Indian economic life will lead a casual observer to think that agriculture must be a prosperous and flourishing industry in this country. In fact it is otherwise. Agriculture is the most depressed and unprofitable industry of our country. Dr. Clouston has very well summed up the whole position regarding agriculture in the following words while giving his evidence before Agricultural Commission. "In India we have our depressed classes, we have too, our depressed industries, and agriculture is unfortunately one of them. Judged by whatever standard—the size and the constitution of holding, the implements and fertilisers in use, the system of rotation of crops, the quality of seeds, the position with regard to irrigation facilities, and other land improvements marketing organisation, animal husbandry, subsidiary rural occupations, etc.—our agriculture is in a hopelessly backward and stagnant condition, the result being under production, and excessively low outturn per acre which at best is often only one-third or one-fourth of what is obtained in other lands and which dwindles to nothing during times of drought and famines."

Low yield of crops in India:—The backwardness of Indian agriculture becomes too glaring when we compare the yield of our main crops with those of other countries. One will be surprised to find that India produces nearly 90 lbs. of cotton per acre while U.S.A. produces more than 250 lbs. and Egypt produces 400 lbs. India produces nearly one-fourth of what England or France does of wheat and Barley per acre. The yield of sugar-cane per acre in India is one-fourth of Java and one-sixth of Cuba. The same sorry story can be related for other Crops like tobacco, oilseeds etc. This shows how backward Indian agriculture really is. If only the yield of land could be increased

by 50 p.c. which can be easily done under existing conditions the peasant can be made better off.

Need of improving agriculture:—It is needless to emphasise the fact that Indian agriculture should be improved. An improvement in agriculture will improve the economic condition of large section of our population and the standard of living of the masses will go high. The country will get adequate food supply of which there is a shortage at present. With the improvement in agriculture the purchasing power of the peasant will increase and Indian industries will find ever expanding market for their manufactured goods in the country itself. Moreover agriculture improvement will bring down the cost of cultivation and the home industries will get their raw materials at a lower price. In fact improved agriculture is pre-requisite of industrial advancement of India. It is idle to think that India can attain her full industrial advancement without developing agriculture.

Inter-dependence of Agriculture and Industry:—When we emphasise the need of agricultural improvement it should not be interpreted that we hold the opinion that India is destined to be an agricultural country. The nature has endowed our country with such vast resources and favourable physical conditions that India can have a prosperous manufacturing industry and flourishing agriculture. In fact both are interdependent, and both need development. As noticed beforehand with growing prosperity of agriculture, manufacturing industries will get a great fillip; the contrary is also true. The industrial advancement of India will usher out forces which will make agriculture more prosperous. One of the most embarrassing problem of Indian agriculture is the overpressure of population on the land. The present over congestion of Indian agriculture bringing about un-economic

Land resources of India:—The total area by survey is approximately 813 million acres, 670 million acres of which are in British India and 143 million acres in Indian States. Not all this is culturable. The actual cropped area including 60 million acres of current fallows is approximately 360 million acres. The total annual sown area omitting fallows but including double cropping is 340 million acres. Of the remaining area we have 170 million acres classed as culturable waste but much of it has never been under cultivation and its culturable value is highly problematic. The area under forest is a hundred million acres. Much of this is unaccessible and only indirectly connected with agriculture inasmuch as it can provide fodder and fuel. And the rest 183 million acres is uncultivable. But when all is said the average cultivated area per head of rural population is strikingly small. It is nearly 1 acre per head of rural population. Even if we take the total area of land in India (813 million acres) and the total rural population (more than 300 millions) it will work out to nearly less than 3 acres per head of agricultural population. It shows that there is a heavy pressure of population on land.

LAND RESOURCES OF THE COUNTRY

<i>Description.</i>	<i>(Land in thousand acres).</i>		
Area by professional survey	668,045
Area according to village papers	667,732
Area under forest	88,803
Area not available for cultivation	145,550
Fallow land	50,693
Net area sown	22,076

Need of intensive cultivation:—When there is such a scarcity of land in India for agricultural purposes it needs no emphasis that intensive cultivation is the prime

need of the country. Nearly all the fertile and productive land of the country has been brought under cultivation and whatever culturable waste exist is less fertile and can only be broken and reclaimed when irrigation facilities are provided and sufficient capital is provided. In fact under the existing circumstances the peasant can very little add to the existing cultivable land. It is only when the State takes into hand the reclamation of waste land that it is possible. It cannot be denied that there is much scope for extensive farming under a systematic scheme for natural conservation of the country; in Assam, Central Provinces, Punjab, Madras, Sind, United Provinces, and some of the Native States. Burma has extensive culturable areas but it is no more a part of India. In fact there is some scope for extensive cultivation all over the country in general. But where is the scheme which can bring all our land resources into an integral system of land conservation?

Under planned economy it may be possible to bring under plough the cultivable waste available in the country. But for all practical purposes the intensification of agriculture is the only possible way of improving the lot of Indian cultivator. Our pointing out the possibility of extensive cultivation should not be taken to mean that we are less ardent advocates of intensive cultivation. In fact intensive cultivation is the only hope of Indian agriculture. Even if all the cultivable waste could be brought under the plough (which is not practicable) the need of intensive agriculture could not be made less imperative. We have reached a stage in our agricultural economy where intensification of agriculture cannot be avoided.

Of the cultivated area referred to above approximately 270 million acres are occupied by food crops, the rest by non-food or commercial crops. It shows that India is trying to utilise more and more of her land for producing

food for her large population and less land is available for commercial crops. Of the non-food crops the oil-seed group with about 22 million acres, and cotton with about 24 million acres head the list, Sugar-cane with $3\frac{1}{2}$ million acres, tobacco with $1\frac{1}{4}$ million acres and jute with nearly less than 2 million acres are important because the gross return per acre is high and cultivation relatively intensive.

Thus we find that food crops in India account for roughly 80 p.c. of the cultivated land and non-food crops for the rest 20 p.c. Among food crops rice stands first, then come wheat, jowar, bajra and gram. But there is a tendency among the non-food crops to increase their acreage at the expense of food-crops in order to get the advantage of higher prices.

Sir T. W. Holderness has rightly said in his book, "Peoples and Problems of India." "Subtracting the land thus utilised for supplying foreign markets from the total area under cultivation, we shall find that what is left over does not represent more than two-thirds of an acre per head of the total Indian population. India therefore feeds and to some extent clothes its population from what two-thirds of an acre per head can produce. There is probably no country in the world where the land is required to do so much" (by extensive method of cultivation—ours). There is little surprise that with so little land per head and extensive agriculture Indian population is bound to remain under-fed and under-clothed. Hence industrialisation of the country and intensification of agriculture are the only remedies for her economic ills.

BRIEF SURVEY OF AGRICULTURAL CROPS IN INDIA.

Food Crops Rice:—Rice the most important crop of India and covers nearly 30 p.c. of India's sown area (Rice

covers nearly 73 million acres). It is the staple food of the largest section of Indian population. It requires very fertile soil which has the capacity of retaining moisture. Temperature should not be less than 75 degrees. It demands swamp conditions and during a considerable period of its growth it must be flooded. Level lands, especially on the alluvial soils of the river valleys and deltas are highly favourable to rice cultivation. Rice is seldom raised where rainfall is less than 40 inches. Monsoon greatly influences rice cultivation in India. Its failure has much adverse effect on the output because water is the principal factor in rice cultivation.

The principal rice growing provinces in India are, in order of importance, Bengal, Madras, Bihar, U.P., C.P., Assam, Orissa, Bombay and Sind.

Although India is the second largest producing country in the world the home consumption is so great that she hardly exports more than 1 p.c. of the total production. This has to be offset against the imports (1 million ton) from Burma, Indo-China and Siam. India thus imports more rice than what she exports. In view of the lessened demand of jute and large import of rice it is desirable that more rice should be produced. The total annual yield in India is roughly 24 million tons.

Wheat:—Wheat is the next most important crop in India covering nearly 10 p.c. of the total cultivated area in India (35.6 million acres). India occupies the fourth place in the list of wheat producing countries and produces about one-eighth of the world's total.

Wheat needs a rich soil because fertility is lessened after each cultivation. Mixed clayey lands are the best for wheat cultivation. At the sowing season, wheat requires

water but too heavy rain like that of Bengal, Assam, and eastern Madras is unfavourable to the cultivation. It requires a large amount of heat for its grain to ripen though the necessary period of heat need not be very long as the grain ripen quickly. In Punjab, U.P. and Sind where the rainfall is less wheat cultivation has become very successful with the help of irrigation.

The total yield of wheat in India is roughly 11 million tons. The Punjab and U.P. produce nearly 60 p.c. and cover more than 50 p.c. of the area. Punjab heads the list of wheat producing provinces in India. U.P. is a close second. Besides these two provinces C.P., Bombay, Bihar, N.-W.F.P., Sind, Central India, Rajputana, Gwalior, Hyderabad, produce more or less the same amount.

In India the average yield of wheat per acre is abnormally low because of inferior cultivation. Till 1920 India used to export considerable quantities of wheat. Now there is a great decrease in export and what seems strange she has to import a fairly large amount of wheat mostly from Australia.

Millets:—Millet is the staple food of agricultural population of Deccan. It flourishes best in hot lands which are fairly dry. It can be grown without irrigation in areas when the rainfall is scanty. There are two varieties of millets in India—jwar and bajra.

Jwar is extensively cultivated in the Deccan though its cultivation is practised also in other dry parts in India. The area under cultivation is roughly 36 millions acres and the yield is nearly 7 million tons. Bombay, Hyderabad, Madras, and C.P. produce nearly 70 p.c. of India's total yield. Bombay heads the list and Hyderabad and Madras

closely follow. Jwar is also produced in U.P., Punjab, Gwalior, Rajputana, Central India and Mysore.

Bajra is widely cultivated and is essentially a village food crop. The area under cultivation is roughly 15 million acres and the yield, 2 million tons. Bombay, Madras, Punjab, Hyderabad, Rajputana, and U.P. are the principal producers. It is also produced in Sind and C.P. a little.

One-fourth of the total production of millets is exported to Sudan, Arabia, Holland, East Africa, etc.

BARLEY AND MAIZE.

Barley resembles wheat in general appearance and manner of growth. India raises 5 p.c. of the world's total barley. It is mainly grown in Northern India and U.P. has the largest acreage under barley. The other provinces in order of importance are Bihar, Punjab, Rajputana, N.-W.F.P., Kashmir and Pengl. The internal demand for barley is so high that very little is exported (less than 10,000 tons) the average annual production is 2.5 million tons.

Maize is found more or less all over India but Northern India raises the major portion. Maize requires high temperatures and much more summer rain than wheat. The soil should be rich and well-drained. The total area under maize is about 6.5 million acres with an average annual production of 2 million tons. U.P., Bihar, Punjab are the leading producers. It is also cultivated in Hyderabad, N.-W.F.P. and Kashmir on considerable areas. Insignificant quantity is exported. It is raised mainly for home consumption.

PULSES.

Gram is the most important pulse and is grown extensively in Punjab and U.P. Other important

producing areas are Bihar, C.P., Hyderabad and Bombay. The average annual output is nearly 4 million tons and the acreage exceeds 17 million acres. Gram is often cultivated in continuation with wheat. It is mostly consumed in the country itself and very little is exported.

Lentil or Masur is grown particularly in the Central Provinces, Madras and U.P. though in other provinces its cultivation is not uncommon. "Arhar" is one of the most important food-stuffs of the country-side and is generally grown as a mixed crop in rotation with cereals. "Urd and Moong" are also important pulses commonly produced in the Northern India as mixed crop.

More than 50 million acres of land account for the cultivation of pulses in India. They constitute important foodstuffs. Arhar and Masur is exported in considerable quantities.

Tea:—India is the largest tea-producing country in the world. Tea plant requires a deep fertile soil, which must be exceptionally well-drained, so that there may not be stagnant water on it. It is therefore generally grown on hill-sides. High temperature is essential for tea cultivation.

The total acreage under tea plantations is roughly 850,000 and total annual yield is a little more than 451 million pounds. Assam is the largest producer and contributes more than 50 p.c. of the total Indian production. Bengal occupies the second position in the list of tea producing provinces. Darjeeling and Jalpaiguri districts produce nearly all the tea of Bengal. Madras and Travancore are the two other provinces which produce a considerable quantity of tea. Besides these Bihar, U.P. and Punjab hilly districts and Cochin and Mysore also produce a little tea.

India exports usually 76 p.c. of the total tea production of the country. U.K., France, Canada, U.S.A., Australia and New Zealand are the main purchasers of Indian tea. In these foreign markets Indian tea has to face growing competition of Ceylon, Java and China tea.

Coffee:—Coffee plant requires a rich well-drained soil, a warm climate and a moderate supply of moisture. Nearly 200,000 acres of land are under coffee plantations and the average yield exceeds 3.5 million pounds. Southern India has the monopoly of coffee cultivation in India. Mysore heads the list of coffee producing provinces. Madras and Coorg are also important producers. Very little coffee is produced in Cochin and Travancore. Most of it is exported. The exports of Indian coffee has fallen off as a result of the competition of Brazillian coffee which dominates the world market.

Tobacco:—It has a wide climatic range and is cultivated throughout India. Generally it thrives in high soil that is rich in lime, humus, and potash.

India is the second largest tobacco producing country in the world. Nearly 1.3 million acres of land are under tobacco cultivation and the average production is about 600,000 tons. Bengal, Madras, Bihar, Bombay, Punjab, Hyderabad and U.P. are the principal producers of tobacco in order of importance.

The leaf produced in India is generally of a coarse heavy type with a dark colour and strong flavour and as such it is unsuitable for cigarette-making. Indian leaf makes an excellent filler. Virginia tobacco cultivation is being encouraged by the Government.

Sugar-cane:—India is the largest producer of sugar-cane in the world. It requires high temperature and ample rainfall. The soil must be well-drained and

should have lime in it. Although sugar-cane is cultivated throughout India but U.P. is the largest producer producing half of India's total produce. Punjab, Bihar, Madras, Bengal and Bombay are the other principal producers of sugar-cane. The average acreage is a little more than 3 millions and the total annual produce is a little more than 4 million tons of sugar-cane.

It has been estimated that in actual sugar India's production per acre is less than one-third that of Cuba, and one-sixth that of Java, and one-seventh that of Hawaii. Recently improved varieties of sugar-cane are being raised in different provinces.

NON-FOOD CROPS.

Jute is the most important fibre in India and is the object of world commerce. India enjoys a monopoly as the world's sole producer of jute on an extensive scale. The demand for jute in the world's market is based upon the fact that no cheaper fibre is available for bagging agricultural produce. The cultivation of plant is restricted to the Ganges Brahmaputra Delta in Bengal and Assam and in Bihar and Orissa. Where the soil is enriched by alluvial deposits brought by river inundation favouring the growth of this exhausting crop without any expenditure on manure. Jute is sown from March to May and its harvesting period begins from July and extends to September.

Jute requires for its cultivation a hot damp climate in which there is not much rain in the early part of the season. It grows best on rich clay and sand.

The fibre from the stem is separated after the plant is retted in a pool of stagnant water.

During the last decade the acreage under jute has varied between 2 million and 3 million acres and the

produce also varied between 6 to 9 million bales of 4,000 pounds each. During the war time its cultivation again increased to 3 million acres and the total yield to 9.5 million bales of 4,000 pounds. Bengal supplies 85 p.c. of the total supply.

The jute cultivation was a very profitable occupation to the Bengal peasant who depended very much for their prosperity upon its cultivation. With the fall in demand for jute after 1930 consequent on the introduction of many substitutes and import barriers by the foreign countries the jute industry faced a severe depression which brought in starvation and misery to Bengal peasant. To improve the condition the Bengal Government introduced a scheme of voluntary restriction of jute crop and encouraging the cultivator to grow more rice.

Hemp:—There are three varieties of hemp in India Sisal hemp, Sann hemp, and Indian hemp. As a fibre Sann hemp is the best and is grown in Bombay, C P., U.P. and Madras Presidency. It is mostly exported to Europe.

Indian hemp is more important for narcotic in the form of bhang, ganja, or charas than for fibre. As a source of fibre it is grown in the north-west Himalaya and Sind. Sisal hemp has been least exploited commercially. It is grown in Sylhet, Tirhoot, Bombay, and Southern India.

Cotton:—India is the second largest cotton producing country in the world. U.S.A. being the foremost among the cotton producing countries of the world.

She produces one-fourth of the world's cotton supply but the cotton is very inferior of a short staple and is good for coarse fabric only. Cotton holds the first position among the commercial crops of India.

Cotton has a considerable climatic range. It grows in the dry region of Bombay as well as in the moist province of Bengal. Generally speaking it is a dry region crop and flourishes where the rainfall is less than 40 inches. The soil is equally important, the sticky black soil of the Deccan is ideal for cotton cultivation. Cotton is cultivated in Bombay, C.P., Berar, the Punjab, Madras, U.P., Bengal, Hyderabad, Central India, Baroda, Rajputana, and Mysore. Half the total area is confined to Bombay and Berar.

There are two varieties in India (1) The Indian or short-staple cotton, (2) the American cotton. The bulk of the production is short stapled. During the last few years efforts are being made to increase the cultivation of long staple cotton in Punjab and Sind, Gujerat, Kathiawar, Southern Bombay, Madras which have the facilities of irrigation. The Indian cotton is considered as long staple when the fibre is one inch long. When the fibre is less than $\frac{17}{32}$ " it is known as short staple.

India is the second largest cotton producing country in the world.

Oil-seeds:—The principal oil-seeds found in India are linseed, groundnut, cotton seed, rape-seed, castor-seed, sesamum seed, copra, mowra-seed, and polly-seed. *Linseed* is cultivated for its seed mainly in the central Provinces, U.P., Bihar, Hyderabad, Bengal, Bombay, Punjab and Rajputana. Rape-seed is cultivated in Northern India and U.P. alone supplies more than 50 p.c. of India's total.

Groundnut is one of the most important oil-seeds and has exhibited rapid growth within recent years. It is grown mostly in Madras, Bombay, Hyderabad, C.P., and Mysore. *Sesamum* (Til) is cultivated in almost all the provinces in India but the crop is raised most extensively in Bombay, Madras, and C.P. *Castor-seed* is principally

grown in Madras, Hyderabad State, Bombay and the Central Provinces. Copra is largely produced on the eastern and western coastal strip and in Bengal and Assam.

Oil-seeds are in demand not only for salads and food, but also for preparing medicines, perfumeries, varnishes lubricants, candle, soap manufactures and other purposes. A large quantity is exported annually and the export of oil-seed forms a large item in India's foreign trade, and it occupies the fifth place among the exports. India does not yet make the best use of her oil-seed resources though attempts are being made to develop a local oil crushing industry.

Rubber :—India produces nearly 2 p.c. of the world's total production of rubber. Rubber is mainly grown in Southern India, Madras, Coorg, Mysore, Travancore, and Cochin are the principal producers of rubber. Travancore produces nearly 60 p.c. of India's total production of Rubber.

Live-Stock and their products.

Though of poor quality, India maintains an exceedingly large number of live-stock.

Number of live-stock population in India.

(in Millions.)

Oxen	..	170	Horses	..	2.
Buffaloes	..	50	Mules	..	2
Sheep	..	43	Camels	..	1
Goats	..	53	Elephants	..	..

India has the largest cattle population in the world. Cattle are used both for agriculture and milk industry. "Without them agriculture in India cannot be carried on." The important cattle breeding areas are the Northern Gujerat, Central India, Nellore district, Sind, Montgomery

district in the Punjab, the U.P., Mysore and Bombay. (See Chapters on agriculture and subsidiary occupations for agriculturists in India).

Sheep in India are particularly reared in the Hissar district of Punjab, Garhwal, Almora, Naini Tal in the U.P. Sind, Baluchistan, Kathiawar, Gujarat, Mysore and certain districts of Madras Presidency. The Indian-sheep is inferior to that of Australia or South Africa as mutton or wool supplier. The wool of Northern India is white and of fair quality while in Peninsular India, it is grey, short and coarse. The average annual production is little above 85 lbs. "A good deal of the wool which comes into Indian markets is dead wool *i.e.* that has been removed from the carcasses of slaughtered sheep and not shorn. No serious effort has been made to improve the breed of sheep in India."

Annual products in India are hides and skins, bones, wool, milk and ghee. The term hides denotes the skins of cattle, horses and camels, while the term skin is restricted to those of calves, sheep and goats. In India the average production of hides and skins is about 50,000 tons of which nearly 30,000 tons are exported. The leather centres in India are Cawnpore, Lahore, Agra, Calcutta. Delhi and Madras Indian hides and skins are exported to U.S.A., Germany, U.K. and France. Before the outbreak of war (1939) India used to export on the average 9 crores rupees worth hides and skins both raw and tanned.

Sericulture:—India is a great raw silk producer, various silk worms are reared in different parts of the country. The varieties are the mulberry silk, tassar silk, endi and munga.

There are three principal areas where raw silk is produced (1) Southern portion of Mysore and Coimbatore

district of Madras. (2) The Murshidabad, Malda, Rajshahi and the Birbhoom districts of Bengal. (3) Kashmir and Jammu with neighbouring districts of Punjab and N.-W.F.P. Tassar silk is mainly produced in Chota-Nagpur, Orissa and parts of C.P. Endi and Munga silk worm is reared in Assam. Silk is also obtained from North Bihar, Kashmir is the most important producer of silk in India where silk worms thrive best on mulberry trees. Silk industry is a state monopoly there and the major portion of the produce is exported to Europe. Mysore and Kashmir States have invited experts to develop silk worm rearing industry in their respective states.

CHAPTER VII.

AGRICULTURE: PRODUCTIVITY.

(Land Problems).

In a national programme of economic reconstruction, the problem of setting right our agricultural economy is of great importance. The prevailing poverty of the Indian masses is inextricably connected with the existing depression in this premier industry of the country. Unless a satisfactory solution is, therefore, possible for the rehabilitation of our agricultural conditions, all schemes and talks about improving the economic outlook of our people are bound to prove fruitless.

Before we proceed to study the various problems of agricultural reform in the country, it would, however, be profitable, for correct appreciation of the situation in hand, to point out a fact of a somewhat general nature and its limiting effect on our future programmes of development. Our reference is to the well-known pressure of population on land. Students of Indian economy are one in their opinion that the burden that our land has to carry to-day, in spite of regional variations and possibilities of some readjustments that may lighten the situation in certain parts, is definitely more than it can do so efficiently and successfully. For the last so many decades there has been taking place, as we have pointed out in our chapter an 'Economic Transition in India', a progressive ruralisation of our country and the tendency is by no way on decrease. Different causes have contributed to this unhappy process in varying degrees. Increasing population, decay of old handicrafts on account of the factors that we have already reviewed, and lack of alternative

occupations in the country to absorb the growing population are the most important ones that need description. Therefore, the first important measure, that seems more urgent than any other to set on roll the series of agricultural reforms so necessary in our land, is to relieve the land of its heavy burden and to find out ways and means of preventing it to grow in future also. This clearly means that persons who are supported by land to-day should be removed from there and other profitable means of occupation should be found out for them. Here lies the real crux of the whole situation. It has been suggested by more than one writer that development of large, medium, and small-scale industries in the country, and the accompanying expansion in the fields of trade, commerce, and banking etc., would be the only way to relieve the pressure of population on land. So far as the suggestion is practicable it is sound no doubt. It is useful in another way also that it emphasises the very important fact that problems of Indian agriculture cannot be solved in an isolated fashion. The economic problem of the country is one whole problem, which in its turn is again only a part, however, important the part maybe, of the big problem of reconstructing the whole life of the people, and our solutions are to prove effective only to the extent they are framed keeping in view the full picture and not only a part of it. So it is also a fact that agricultural and industrial development are only parts of an all-round development and should be attempted simultaneously. But our difficulty is a practical one. Can we reasonably hope that the number of the working population that the large, medium and small-scale industries and other new means of occupation, say in a given period for which we may frame the programme of national planning, would be able to absorb, would more or less balance the number that would be locked upon in excess of the normal requirements of agriculture? If

our answer to this question is in affirmative our difficulty is no doubt solved. But with a different answer the situation would appear more complicated. Doubts have already been expressed on this score that even a revolutionary development of the industrial life of the country would not, in terms of absolute figures, mean much so far as the population depending for its living on industries of all kinds is concerned, and the required relief to land would not be forthcoming to the full extent. It is no use speaking in terms of statistics to make an idea of the possible deficiency that we may expect because neither our present data is sufficient and reliable for the purpose nor we can form any very dependable estimate of the future as well. But the general conclusion may be asserted without any fear of contradiction that a realist approach to the whole situation gives no guarantee in the near future that even large and small industries put together would be in a position to absorb the total excess population on the land. Thus to an extent all our attempts to reform the agricultural economy would have to labour under this one limiting factor. The only other remedy that can be of some help is to bring more and more land under the plough. But for this also the prospects are not very hopeful. Burma has been separated from India and much of the land shown as cultivable waste is really uncultivable, specially if the practical difficulties in the way of cultivating it are taken into consideration. Expert authorities like the Agricultural Commission and Messrs. Bowley and Robertson who cannot be accused of any pro-nationalist sentiments have also expressed the same view. The two experts, invited by the Government of India, in their 'A scheme for an Economic census of India' write in this connection. "In the last resort we think that it would be better to abandon the attempt to distinguish between the various kinds of uncultivated land than to continue to publish the pre-

sent figures which in a country already full of real problems, suggests the existence of one which is almost certainly imaginary." The reference is to the problem of bringing culturable waste into cultivation. The only possibilities of extending cultivation to new lands that exist are in case of Assam or to an extent C.P., Punjab, and Sind. So far as the Punjab and Sind are concerned the problem is primarily of irrigation, and in Assam apart from its unhealthy climate the principal obstacles are uncongenial conditions of labour and the consequent difficulty of recruiting the required labour supply*. But taking the country as a whole we are driven to the same conclusion that there is not much hope of relieving the pressure on land by bringing fresh lands under the plough. Thus the only hope of improving the agricultural conditions of the country lies in the direction of more and more intensive and scientific cultivation. And it is from this viewpoint that we shall now study the agricultural problems of our country. The first problem that needs serious thought is about increasing the existing productivity from land. Let us then discuss it at some length.

It is needless to labour the point further that the yield of Indian land in comparison to that in other countries is very meagre. If we have to remedy the situation as it exists at present we have to put this premier industry of our country on a sound and economic footing. There are several difficulties that stand in the way and it is necessary for us first to study them and then suggest suitable remedies.

Economic Holding:—The first point is about an economic holding. It is a well-known fact known to every student of economics that a proper combination of all the four factors of production is necessary before best

results can be arrived at. Agriculture is no exception to the rule. One of the great drawbacks under which the Indian agriculturist generally labours is that the unit of land that he cultivates is less than would be sufficient even keeping in view the labour and capital that are available to him. In other words his holding is uneconomic. Here we would like to make clear the precise meaning of the term economic holding. In the first instance it is to be remembered that economic holding is not an absolute term meaning any fixed area of land irrespective of time and place. It is on the other hand a relative term having different connotations in term of area of land under different circumstances. Thus what may be regarded economic holding under one set of circumstances may not remain so if the circumstances change. The relevant factors that are important in this connection are the amount of capital and equipment in form of cattle, plough and other tools and implements, the amount of labour available, the type of crop sown, the methods of farming followed, and the quality of the soil in question. It is only after taking into consideration all these and other relating things that the size of an economic holding can be determined. But in general terms we can define economic holding as one which under a given set of conditions would yield the maximum returns. Secondly when we speak of an economic holding our reference is to the unit of cultivation and not the total size of the holding owned by a person. What matters is the size of the land cultivated as one single piece and not the total area of land owned. A person owning a lot of land may not yet possess an economic holding if the land is divided into a number of small plots each cultivated separately. Similarly there may be another case in which the cultivator himself may own very little or no land yet his unit of cultivation may be economic if the land that he has taken on rent is in one compact block and of

sufficient size. It should be clear, therefore, as to what in reality the term economic holding means. Now one of the important handicaps in the way of agricultural progress in India is the uneconomic holding that a cultivator possesses. His unit of cultivation is not enough even for the very meagre equipment and the quantity of labour he has at his command. The present tiny holdings of one to three acres, and of even less than an acre in many cases, which are the rule all over the country need be replaced by holdings of three to four times their present size. According to the census of 1921 the average holding in India was 2.7 acres. This is a clear proof of the uneconomic nature of our holdings. The sub-division and fragmentation of land are responsible for this evil to a great extent. It is necessary, therefore, to study this problem in somewhat detail.

Sub-Division and Fragmentation :—To start with, the distinction between the two terms should be clearly understood. By sub-division of holding we mean the distribution of land in small plots between the numerous descendents of the original owner. Fragmentation is, however, a different thing. It shows how the total area owned by a person is held. Whether it forms one compact block of land or it is divided into a number of pieces which lie scattered over a given area. It would be obvious at a little thought that fragmentation is generally a greater evil than sub-division. Before, however, we discuss their merits and demerits, it would be desirable to throw some light on their causes.

To take sub-division of holdings first. There prevails in the minds of many persons a little misunderstanding about the real nature of this problem. It is wrong to suggest that the laws of succession and inheritance are the main cause of this evil. It would be more correct to say that the laws of inheritance, according to

which the estate of the father can be equally partitioned between all the brothers if they so desire, have only provided a means through which the actual causes have operated. So long as these causes did not exist, the problem of sub-division also did not arise though the laws of succession and inheritance were there even then. It should not be forgotten that sub-division of land is after all a modern phenomenon in our country. The examples of some of the continental countries also strengthen the same view. Belgium may be quoted as an instance. Though somewhat similar laws of succession hold good there also, but excessive sub-division has not taken place. The brothers hold the property in joint ownership, only one of them cultivating it and paying rent to others. Thus the real causes of sub-division of holdings in India must be sought elsewhere than in our laws of inheritance.

2. The growth of population on the one hand and lack of alternative occupations on the other increased the pressure on land. Larger and larger number of persons became the cultivators of the soil. It had been possible for the joint family to continue the joint cultivation of the family-land, the question of sub-division would not have come to the front. But the rise of the spirit of individualism assisted by the emphasis which the English Judges in India placed on private property and individual rights brought about the disruption of the joint-family leading to the partition of the common landed property between different co-sharers and thereby putting an end to joint-cultivation.

3. The decline of our hand-crafts was a further cause to increase the pressure on land and thus it also had its due share in aggravating the evil. These then were the causes responsible for sub-division of holdings and the laws of succession and inheritance facilitated their operation. Similarly fields being open and without hedges, also lend themselves to easy sub-division.

So far as fragmentation of the land is in question, it is the result of the desire on the part of the several heirs to have a share in every kind of land possessed by the ancestor. This is also to an extent made necessary to adopt the agricultural system to the exigencies of our climatic conditions. The practices of fallowing and rotation of crops, for example, require that the cultivator should not hold the land in one compact block but in scattered fields. In those areas where rice is the predominant crop fragmentation is especially encouraged because for the cultivation of rice the land is broken up into plots surrounded by dykes and channels for the inflow and outflow of water*. Another important factor affecting distribution of land in several plots is that of water which is generally available in the village only. Thus a cultivator would like to have a plot of land round the village, another at a little distance though still irrigable from the wells and a third in the outskirts of the village given up to rain-crops only*. Like sub-division of holdings, the scattered fields are also a modern phenomenon, and the evil is on the increase. Before we discuss the measures that should be adopted to prevent the sub-division and fragmentation of land, it would however be desirable to say something about their respective merits as well as demerits.

Now to begin with, the point should not be missed that sub-division or fragmentation is not always an undesirable thing. Because sub-division prevents concentration of property in a few hands only and gives rise to an independent class of peasant proprietors with a more equitable distribution of land amongst them. The utility of scattered plots in view of our special conditions of agricultural economy where precarious and uncertain nature of rainfall makes security rather than prosperity a more

* Rural Economy of India by R. Mukerjee, Page 30, 33.

practical ideal for the agriculturists is already seen above. The evil, however, begins when the two processes of subdivision and fragmentation are carried to an excess. And so far as India is concerned the cause for anxiety lies in the fact that such an excess has been reached. When the land cultivated by a farmer has been reduced to very small size and is also scattered in different plots, agriculture becomes an unprofitable proposition. Whatever minimum capital and equipment and labour-supply the farmer possesses even that is not fully engaged and much of his time, specially when there are no other suitable subsidiary occupations to follow, is wasted in idleness and gossiping. Agricultural profits are curtailed to their minimum and the economic distress in which the agriculturist lives makes it impossible for him either to make permanent improvements on land or to introduce scientific and intensive agriculture. He neither possesses resources for it nor the tiny size of his holding can make proper use of many improved tools and implements. Thus unscientific agriculture and the cultivator's poverty act and react upon each other. He also falls an easy prey to the village bania and his indebtedness increases which in its turn becomes the cause of further sub-division as some of the land may come into the money-lender's hands. The legislative measures passed to prevent this transference of land from the agriculturists to the non-agriculturist have not been very successful in this respect. The construction of wells and putting up of fencing round the fields are discouraged because the holder of a small-sized farm cannot bear the necessary cost. Lack of fencing creates another difficulty in addition to laying the fields open to stray cattle from the neighbouring fields. No new system of cultivation is possible when the danger of such stray cattle coming into the fields and destroying the crops is always there. Besides this, there is a waste of land involved in making so

many paths and hedges for different fields. When size of the holding is small naturally the result is over cultivation and the practice of fallowing so necessary for maintaining soil fertility has to be given up. This means consequent reduction in double cropping. In addition to all the evils mentioned above to which both the subdivision and fragmentation of holdings are open, there are some others which are the result of fragmentation only. When the agriculturist's fields instead of being in one compact block are scattered over in different parts of the village, there takes place much waste of time in going over from one plot to another, and also in taking the cattle from field to field. Similar difficulty arises regarding the transportation of manure as well as crops. All this means greater expenditure and smaller return. Transportation of manure from the village site to different fields also means some waste which would be saved if the whole land would have been in a compact area and the cattle would have been kept there. Irrigation of those plots of land which are at a distance from the well also becomes impracticable. And to top the list fragmentation leads to a lot of unnecessary litigation which arises on account of disputes about boundaries and rights of way. Thus there is no gain-saying the fact that subdivision and fragmentation of land are a real handicap in the way of agricultural progress in our country and several evils result from them. It is, therefore, necessary for us to consider as to how far the above evils can be possibly remedied and what would be the effective measures for doing so. To make the issues clear we should discuss the two problems of sub-division and fragmentation separately.

Let us first take the question of fragmentation which is a more serious evil. The only remedy that is there in

this connection is what goes by the name of consolidation of holdings. It means that instead of scattered plots of land that a cultivator owns he should be given a compact block of contiguous land equal in area and so far as practicable of the same quality of which his previous plots were. The idea behind this is that the cultivator should not be in loss on account of exchanging the different plots of land for one compact whole. The two main difficulties that come in the way of consolidation and that are real also are about water and soil-fertility. As we have already seen sometimes the farmer thinks it more economic under the circumstances in which he is that he should raise different kinds of crops in different fields so that if one of them fails at least others may succeed. He wants security even with a little low yield and does not feel much attracted by the prospect of greater yield on a large farm when the risk of total failure also stares him in the very face. So is the case of water facility. Many schemes of consolidation have failed only because of this difficulty that the cultivator was under the impression that the land he is getting in exchange is not so good for well-construction or supply of water as some of the land he is giving out. Hence no one gains at the cost of another, is a very important principle that has to be kept in view in all schemes of consolidation. Then it is also not necessary that every one should be given only one block-area of land. The exchange of a number of small pieces of land may be for two or three fields of fairly good size, in place of only one. The illiteracy of the farmer and his unwillingness to give up the ancestral land are also other difficulties that hinder the process of consolidation. But there is no reason to believe that given necessary propaganda to educate the farmers in the advantages of consolidation, they would not be convinced of them. In fact the experience not only of foreign countries but of India as well points to the

same conclusion that the agriculturists are not slow in realizing the benefits of contiguous fields.

So far as methods of consolidation are concerned, there are only two of them. One is known as co-operative consolidation. This method of consolidation has been tried in our country in a number of Provinces such as the Punjab, the United Provinces and the N.W.F. Province. The Punjab has been the greatest success. Homogenous land, simplicity of tenure, and new lands are some of the special reasons responsible for this success. Though co-operative consolidation has achieved success, in some provinces, but it must also be admitted that the pace has been slow and quicker and more permanent results are what are wanted. The only alternative, therefore, is to adopt the other method of consolidation through legislation based on compulsion. Because permissive legislation was tried in Baroda but it was more or less a failure. The plan of voluntary action has not been a success even in the countries of the west which had to resort to compulsion. "The majority of European countries have now a law authorising one or more owners of landed rights in an estate to apply to the Government for the consolidation of the land. A stated percentage of right-holders is required to approve of the idea at a meeting convened by an official, if a repartition is to be made." Legislation on similar lines was passed in the C.P. in 1928. "The consolidation of Holdings Act provided for the appointment of consolidation officers who on the application of two or more permanent right-holders in any village, should open an enquiry, and if half the holders with two-thirds of the land agreed to the proposal, should draw up and carry into effect a scheme of repartition, placing the right-holders in possession of their new lands and over-ruling the objections, if necessary, of any persons who dislike

their allotments." Success of this measure which has been applied in the Chhatisgarh Division has been remarkable. The consolidation is very popular and the entire cost is met by a levy, usually of 4 annas an acre, on the villagers. A similar measure has been passed in the Punjab also in 1936. Thus it is clear that compulsory consolidation is a better method than the co-operative one though the latter need not be given up altogether. In the provinces where legislation on the lines of C.P. does not exist should be passed and work of consolidation speeded up.

Coming to the results of consolidation, it has been noticed that such advantages as saving of time, labour, money and land, a diminution of disputes, the opening of the peasant mind and making him more favourably inclined to improved means of cultivation have been realized. Many plots of land which were lying uncultivated owing to excessive fragmentation have also been brought under the plough. Consolidation on the whole has been thus a very beneficial measure.

Before we close the topic of consolidation, however, a necessary warning must be sounded. In tackling this problem, as that of sub-division also, great caution and utmost consideration is necessary. The sentiments and prejudices of the people as well as their wishes must be paid due attention. And though we have already admitted the need of compulsion in this respect, but compulsion must be looked upon as only a last resort and a necessary evil when all possible persuasion has failed and it appears that only an obstinate minority is standing in the way of securing for the large majority the advantages of consolidation.

So far, our attention was fixed on fragmentation. But the evil of sub-division also needs some rectification,

and costly. The rain water on the earth surface runs with torrential rapidity and very little can be sucked down the soil. The result is that there is insufficient water in the interior of the earth for the crops to tide over a break in rains. The wells become useless as the sub-soil water level goes deeper and they can no more be used for irrigating crops.

Large tracts of land have become unfit for cultivation on account of gulley type of erosion in India besides the hidden loss of fertile soil due to sheet erosion. Thousands of acres of valuable land on the left bank of the Jamuna have been destroyed by the formation of a net-work of ravines which produce little more than a crop of grass in rains. Efforts have been made to afforest this area, but the area devastated is far too large to be rapidly reclaimed in this way. Further the expense will be considerable. The real remedy for such damage is to control the drainage in the first instance.

Less striking than the ravine lands of Jamuna but far more extensive and therefore more important is the erosion which goes on the soils of peninsula. Nothing strikes the traveller during rain in the Peninsula more than universal scouring of the fields by the run-off and the enormous annual loss of the best portion of the soil. If only the surface drainage were controlled this loss of fertile soil would stop and time would be given for the water to soak into the soil. This increased absorption would check erosion, would lead to better crops, and would raise the spring level and thus make wells more certain source of water supply. It is in tea planting areas, however, that the most striking examples of soil denudation (sheet-erosion) are to be found.

The remedy in such cases as these is simple. A system of embankments, provided with spill-ways, is all that is needed in the worst cases of denudation. (Sheet-

erosion) On sloping hill-sides terracing combined with surface drains, or embanked fields are essential. In gully type of erosion when land has been devastated by ravines afforestation is the only possible method of reclaiming those areas.

Land Improvement:—The productivity of Indian agriculture is also greatly hampered because of the almost complete absence of permanent improvements on land. Human hand in our country has done very little to supplement nature or remove its shortcomings as we find in case of western countries. There are for example no fencings round our fields. This means waste in a number of ways. The crops stand in the danger of being destroyed by wild animals and stray cattle and for the same reason no individual farmer can adopt an improved and different system of farming. He has forcibly to fall in line with the farming methods adopted by his neighbours. Lack of fencing also gives rise to numerous boundary disputes and much labour is wasted in watching the crops. Similarly the absence of field embankments is responsible for a considerable land wastage in form of soil erosion. There are no proper systems of drainage which results in water-logging and soil deterioration. The levelling and grading of soil is also not done so as to make possible uniform absorption of water by land. There are no farm houses on the fields. This is also a source of much wastage of manure, as it has to be carried from the village site to the fields. Supervision of crops also becomes difficult and it entails an unnecessary waste of time and labour for both man and cattle. Then it also contributes to the unhealthy practice of men and cattle living in the same house in the village. Here it may be pointed, however, that construction of farm-houses involves certain real difficulties. First of them is that the cultivator living in a farm house on the field away from the

inhabited village feels lack of security. The fragmentation of holdings also makes it impossible for him to have a farmhouse as he cannot have it in all the various plots he owns. The love for the ancestral home and the convenience of living between the neighbours also add to his difficulty. Lack of facility of water may also act as an important factor. And above all is the question of finances that are inevitable for a change of residence. Thus we find that the various land improvements that are necessary for increasing the productivity of land are not made in our country. The reason for this is not far to seek. The cultivator living a semi-starved existence with un-economic holding scattered in so many parts cannot afford to have them all. It is very important to remember that no agricultural reform is possible in isolation. The vicious circle that exists must be simultaneously broken at a number of points. Under the present circumstances it is more than clear that the agriculturist unaided by outside effort can do practically nothing to remedy the situation. Putting up of fences or construction of embankments are obviously beyond his capacity. The state must come out with a helping hand in form of providing necessary loans, technical and expert advice, and it should at the same time awaken the farmers by means of propaganda and education to the advantages of all these improvements. Something can be done on co-operative lines also. But having said all this, it must be again and again emphasised that unless agriculture is turned into a really profitable undertaking and the farmer's capacity is increased no substantial improvement in the present situation can be possible. It is there that the crux of the whole problem lies.

A very important problem connected with the increase of land productivity in India is that of irrigation. We shall, therefore, study it at length.

Irrigation :—The first question that needs consideration is about the need of artificial irrigation for Indian agriculture. It is a well-known fact that we have seasonal rains in our country which are confined only to a few months in the year. Another feature of these rains is their uncertainty in several parts of the country. The time when they come and when they stop is also important from the view point of cultivation. Then the uncertainty is not only of the time but also of the amount. In one year you may suffer on account of excessive rains, and in the following year your misfortune may be the inadequate rainfall or even its total failure. There are certain parts of the country as Sind, Punjab and parts of Rajputana, where deficient rainfall is only a normal phenomenon. Certain crops like rice and sugar-cane require a regular and sufficient water-supply. All these things point to the one conclusion that rainfall in India is not a very dependable factor and if our agriculture has to come out of the danger of uncertainty as well as deficiency, arrangements for irrigation are the first necessity to be eared for.

Irrigation has been practised in India since times immemorial, especially by means of wells and tanks. The main contribution of the British Government in the field of irrigation is in the direction of canal irrigation. Before, however, we discuss the irrigation policy of the Government, let us consider the different ways in which irrigation is carried on at present in our country.

There are three important ways of irrigation followed in India, well-irrigation, tank-irrigation and canal-irrigation.

To take well-irrigation first, we know that it is one of the most ancient systems practised by our people, the other one being the tank system. Even to-day wells

irrigate quite a substantial portion, near about 25%, of the total irrigated land in the country. The number of wells runs to the high figure of nearly $2\frac{1}{2}$ millions in all. This predominant position of well-irrigation is due to several reasons. First of all is the consideration of money. Ordinarily a kutchha well costs about Rs. 20 or so, and thus is well within the capacity of an average farmer. The construction of even a pucca well would not mean an expenditure of more than a few hundreds of rupees, the exact figure of course, in both the cases, of a kutchha or a pucca well, depending upon the capacity of the well, the sub-soil water-level and other circumstances. The Indian soil is also mostly suitable for well-construction. Another advantage of well-irrigation is that it does not result in soil deterioration as is seen in case of canal irrigation. Recently the use of power-pumps and the construction of sub-artesian wells have made improvements in well-irrigation. Generally wells are constructed by private enterprise though the state also sometimes helps by means of granting Taccavi loans. Wells are found to a great extent in the U.P. especially eastern a part of it, Bihar, Western Bengal, Black cotton soil, Madras, and Bombay, Southern Rajputana, Punjab, C.P. and Central India. Where the land surface is level and soil is soft as well as sub-soil water-level is high, construction of wells is an easy affair and also not very expensive. There is still much scope for the extension of well-irrigation in several provinces. Government must come to the aid of the agriculturist more liberally in this matter. Small co-operative societies may also be formed for the purpose of constructing or sinking wells. A new development in the field of well-irrigation is that of tube-wells. With the help of hydro-electric power produced from the Ganges canal, tube-wells have been constructed in certain districts of the U.P. such as

Badaun, Meerut, Muzzafarnagar, Bijnore, Aligarh, Moradabad etc. Of course their cost of construction is very heavy, one well involving an expenditure of about Rs. 10,000 and having a capacity to irrigate 1,000 acres of land. With the spread of hydro-electric power tube-wells are bound to get an impetus. Though the initial cost of construction is really very great, yet tube-well irrigation has certain advantages over canal irrigation. The cost of repair is very little, and the agriculturist gets an encouragement to economise the use of water because he can get from the operator as much water as he needs and has to pay for it only. Well-water is better than canal, irrigation is also an important factor in favour of well-irrigation.

The other old system of irrigation is that of tanks. They predominate in those areas where well-construction is not an easy and cheap affair. They are mostly found in Southern India, Rajputana, C.I., Hyderabad, and Mysore. It is in the Presidency of Madras alone that about 35,000 tanks already exist. On the other hand in the Punjab and Sind tank irrigation is practically unknown.

Last but not the least comes the canal irrigation. This is the most important modern method of irrigating lands with deficient rainfall. The canal construction is possible only in plains where land is level. It is why we find that it is mostly in N. India that canal irrigation is most prevalent. Rivers flowing throughout the year with sufficient water-supply is another condition of canal irrigation. This system of irrigation has received the greatest encouragement from the Government which have spent large amounts of money on the construction of canals. Besides the great canal systems of the Punjab, the United Provinces and Sind, canals are also found in other parts of the country such as the Madras Presidency, Central

Provinces and Bundelkhand. Some of the more important canal irrigation works are the recently finished Sukkur Barrage and canals in Sind, the Cauvery (Mettur) project in Madras, and the Sutlej valley canals in the Punjab. Besides them there are many other canals in the Punjab and the U.P. constructed from the two important river systems of the Sind and the Ganges. Canals have been taken out from the Jumna and other rivers also. The Sukkur barrage is the greatest work of its kind in the world. It has cost about Rs. 20 crores and the area that it is expected to irrigate is about $5\frac{1}{2}$ million acres. It has brought a vast area of uncultivated land under the plough.

The canals can be further sub-divided into three categories, the inundation canals, the perennial canals, and the storage canals. The first type is of such canals as depend for their water-supply on a certain water-level in the rivers. It is only when the rivers are in floods and the water crosses a certain level that these canals get water. Hence they cannot provide irrigation facilities throughout the year. It is only during the months of June to September that these canals are in action. One distinguishing feature of these canals is that they are drawn directly from the river without the use of any barrage. Many canals in the Punjab and Sind drawn from the Indus and the Sutlej are of this type.

The perennial canals are those which get water-supply regularly by constructing some form of barrage across a river, which flows throughout the year, and diverting its water to the canals. These canals thus do not depend upon the flooding of the rivers. The great perennial systems of the United Provinces and the Punjab and the Sukkur barrage of Sind fall in this group.

The storage works canals are constructed in the Deccan, the Central Provinces and Bundelkhand. A dam is built across a valley to store the rain-water during the monsoon. Then canals are drawn out of this storage and neighboring lands are irrigated. Bhandar-Dara near western Ghat is such an example.

Before 1921 the Government had classified all irrigation works into Productive, Protective, and Minor works. The latter two categories were financed from current revenues, and loans could be raised only for those of the first category. Minor works contained a miscellaneous class mostly of pre-British origin and some small works of also, British period, the former being taken over by the Government for proper maintenance and improvement. Productive works were so-called because they were expected to yield within ten years of their completion a net revenue sufficient to cover the annual interest charges on the capital invested therein. The objective of the Protective works was to ensure security from famines and promote in the long run economic stability. This old classification has now been changed and all Government works for which capital accounts are kept are now divided into only two classes, (1) Productive and, (2) un-Productive. Now loans also can be raised to finance any of the two classes of works. There are some other works for which capital accounts are not, however, kept.

The above account should be sufficient to give our readers the idea that a good progress has been made in the field of irrigation, particularly canal irrigation, in our country for the past few decades. Yet there is much scope for further extension and development, especially in the Province of Bombay where irrigation facilities even now are very meagre. In the early years of the British rule, the Government did not pay any

attention to the work of irrigation. Even some of the very valuable old works, therefore, were ruined for want of proper care and protection. Here it may not be out of place to refer that irrigation works have existed in India since very old times, and some of them were of very large size. For example the Grand Anicut across the Cauvery is about 1600 years old. Similarly in the north, the western Jamna canal is said to be built by Firoz Shah in the fourteenth century and the eastern Jamna canal by Shah Jehan in the seventeenth century. Some other inundation canals in the Punjab are also of ancient date. The attitude of the British Indian Government regarding irrigation underwent some helpful change in the middle of the nineteenth century. But the progress in the beginning was slow because construction was entrusted to private guaranteed companies. Later on the Government itself took over the work of construction and loans were raised to meet the necessary expenditure. At first the Government was more particular about constructing the Productive works only, but soon the importance of protective works also came to be realized. The Irrigation commission of 1901 appointed by Lord Curzon recommended that side by side with the construction of remunerative works, the field for which was limited to the Punjab, Sind, and parts of Madras only, protective irrigation works should also be constructed on a larger scale. They specially referred to the need of the Bombay Deccan in this matter. Since then the attitude of the Government became more liberal. With the Reforms of 1919, irrigation became a provincial subject and this also had the further effect of giving greater encouragement to the extension of irrigation facilities. It is exactly the reason that since 1922 there has been much activity in the field of new irrigation works. The Sutlej Valley works, the Sukkur Barrage and canals in Sind, the Mettur Project in Madras, the Bhan-

dardara Dam and the Lloyd Dam in Bombay, the Sarda-Oudh canals in the U.P., and several important works in some of the Indian States as Hyderabad, Mysore, and Gwalior are a few examples of note. The introduction of Provincial Autonomy under the 1935 Act, should have also resulted in much more new activity which, however, has been checked to a great extent by the intervention of the present war which also resulted in the resignation of Congress Ministries and their re-placement by an autocratic rule by the Governors of the Provinces concerned. As was pointed out by the Agricultural Commission, it is very necessary for all future schemes of irrigation expansion that a full investigation about the necessity and possibility of irrigation should be carried on in every province by the Government, greater attention should be paid to the maintenance, improvement and extension of minor works, and co-operative irrigation societies should be formed and helped for their construction and maintenance.

So far as the advantages of irrigation are concerned they are more than obvious. Not only new lands otherwise lying uncultivated have been turned into green fields producing many valuable crops and thus increasing the income of the agriculturist as well as the Government, but the productive capacity of the old land has also increased a good deal. Double cropping has been made possible and such paying crops as sugar-cane have in many cases replaced the cheaper ones. Agriculture as a whole has been made a more stable profession in areas where irrigation facilities have been introduced and larger railway profits have also been one of its effects. Thus it is clear that irrigation has been responsible for a number of good things for all the persons concerned, the producer, the Government, and the general public.

But there are some difficulties also that have come to light as a result of canal irrigation. One is about the waste of water. As the agriculturist has to make payment not according to the volume of water but the area irrigated, he has no interest in economising the use of water. This leads to over-irrigation and the consequent water-logging and salt-effervescence. The soil deterioration is the result. To check water-logging proper surface-drainage arrangements are the only possible remedy. One reason why the cultivator is prone to over-irrigate his lands is that he is not sure of getting water when he needs. An improvement in this respect would to some extent remove the evil of water-logging and salt-effervescence. Salt-effervescence however, has assumed the shape of a major problem and needs a more serious thought for its solution.

Alkali (Usar land):—One of the most striking features of Northern India is the vast expanse of barren (Usar) lands which are found everywhere. Such Usar lands are found in U.P. Punjab, N.-W.F.P. Sind and some parts of Deccan. Their reclamation would help materially in solving the problem of over-population in these areas.

The formation of alkali land in India is intimately connected with irrigation. Tendency towards over-irrigation is almost certain to increase the amount of alkali salts. Where these salts are present in injurious quantities, they appear on the surface in the form of reh or kalkar. The occurrence of very small quantities of alkali salts in the soil has no injurious effects on crops or on the soil. It is only when the proportion increases beyond a certain limit that they first interfere with growth and finally prevent it altogether.

In open permeable and well aerated soils alkali salts are absent. On the other hand deep layers of heavy,

poorly aerated clays are almost certain to be affected by alkali when such areas are brought under perennial irrigation. Alkali also appears in stiffer soils when accumulations of stagnant water raise the sub-soil water level and when the surface drainage is checked by roads, or by embankments etc.

Various committees were appointed to consider this problem but no successful effort has yet been made by the Government to reclaim the barren land and to stop further deposition of alkali salt on the earth.

CHAPTER VIII.

Agriculture: Productivity (*Contd.*)

LABOUR PROBLEMS.

In the last chapter we have discussed the various problems concerning agricultural land that cry for solution if the present yield from our land has got to be improved. But our difficulties do not end here. There are other questions as well that must be successfully faced in order to reform the present highly depressing condition in which the rural economy of our country finds itself at present. We shall first take up the labour factor of production.

It is a well-known fact that besides land another primary factor of production is labour. It is man and nature upon whose mutual action and reaction all the production-activity of the world is based. And agriculture, certainly, is no exception to it. Of these two factors, nature plays a passive part whereas the rôle of man is an active one. It is his enterprise and ingenuity which harness nature's gifts to productive purposes, and to the extent he is successful in this, one of the conditions of the material basis of human happiness is fulfilled. Hence the importance of the human factor in production is more than obvious. Let us then study the Indian agriculture from this point of view.

The all important question that concerns us in this connection is how far the Indian agriculturist is efficient in his work and what are his present difficulties and the possible ways of removing them? So far as his present position goes there should be no hesitation in admitting the fact that he is far less efficient than his contemporary in the west. But this should not lead us to the conclusion

that there is anything inherently wrong with the Indian farmer and present backwardness and inefficiency are permanent factor of his very being that would defy all attempts at solution. In fact the position is just the reverse of it. The heart-rending conditions of physical debility, intellectual backwardness, social ostracism, economic depression, and moral and spiritual sterilization under which he has to suffer and live to-day are perhaps without a precedence in his own history and a parallel anywhere in the present civilized world. Therefore if there is anything to be surprised at it is not his existing inefficiency and unsatisfactory condition, but the fact that even against such heavy odds he has made it possible for him to exist somehow or other. Keeping in view the conditions of his living and work, the Indian agriculturist really becomes the object of our surprise and tribute rather than of any discontent or condemnation. Even such an expert authority as Dr. Voelcker, Consulting Chemist to the Royal Agriculture Society, who was sent out in 1889 to report on the agricultural practice in India from the modern scientific view, has borne admiring testimony to the careful husbandry 'combined with hard labour, perseverance and fertility of resource' of the Indian agriculturist.* That the Indian peasant is found to be more efficient and enterprising under better conditions of life and work, is also a testimony to the view that his bane is nothing that is part and parcel of his being but the outward conditions that surround him. Improve the circumstances in which he finds himself, and you would see that the Indian cultivator like any other human being would react to them. Hence the problem of improving the existing unsatisfactory nature of the human factor in Indian agriculture is the problem of putting him under

* Jather and Beri Vol. I pp. 241 (Sixth Edition).

more life-giving conditions where an honest and sincere effort has every chance of getting a corresponding reward. We would now, therefore, discuss the present position of the Indian cultivator and the ways of improving it.

The first and the foremost thing in the life of man is his health. One who is physically wreck and possesses no strength to work and resist disease lacks the first essential factor of efficiency. The condition of our peasant in this respect is far from satisfactory. He is bowed down under the weight of his age earlier than expected under normal conditions, his children have a stunted growth, and his women like all others exist in a condition of general want and deficiency. Thus the problem of improving the physique of our village population is of first importance. The problem has a threefold aspect—that of village sanitation, of efficient dietary and last but not least of adequate medical aid.

So far as sanitation is concerned, all that we can say is that our villages have absolutely no arrangement for it. It is a fruitless attempt to distribute the blame between the villager's ignorance, his wilful neglect, and his adverse circumstances leading to his helplessness in the matter. Perhaps the present picture is the result of an unhappy blending of all the three and there exists the vicious circle. No one cause is independent of the other, and that makes their simultaneous solution highly necessary. If, however, we look at the problem historically, perhaps the more correct view would be to say that with the deterioration of his circumstances his outlook in life became more and more pessimist and he had no interest left in doing even that much which lay in his power. To-day we find the Indian peasant generally living with his cattle in the same house. This is injurious to the health of men and animals both. But to maintain that this is the result of the

cultivator's choice rather than his necessity, would be looking at the problem from a wrong angle. The poor-man has no farm-house and there are difficulties in his way in having one. He must keep the cattle, therefore, in the village site. And for want of more accommodation, even if he does not like, he has to share the same shed with his drought-animals. To remove the evil, therefore, mere preaching the disadvantages of such an un-healthy company with the cattle would be of no avail. You have to see that he is provided with necessary facilities for housing his cattle elsewhere. And this is a difficult problem. Take another example. It is a common complaint that the villagers throw all the dirt and dust of their houses just in front of them, they make the cow-dung hill near the place of habitation, and convert the whole open surrounding round the village into places of public latrine. Now, there is no doubt that in case they have the real desire, some of the bad things can be definitely avoided and a few others can be reduced in extent and intensity. To take an instance, there should be no great difficulty in having pit latrines. This would also remove one of the causes that lead to a number of diseases. Hook-worm is a disease having this specific origin. But the villagers are not easily persuaded to take to the reform. We may, therefore, with a clear conscience, blame them for their misfortune and misery. The question, however, demands a deeper thought. Why is it that we find our rural folk, not only in this matter but in many others, not at all enthusiastic about taking to even those good things which are apparently within their reach and which would contribute to the lessening a little of their misery? It is a psychological question and we have to answer it only in that light. The real explanation is that his present depression is so great that his whole psychology is imbued with it and he has left no hope and enthusiasm in life.

Small things, therefore, do not interest him as the good that they are capable of doing appears to him so insignificant in comparison to the vast un-good that he has to carry like a dead weight on himself that he does not feel any stir on their account and his age-long lethargy and inactivity only give the solace and satisfaction of a defeated mentality and depressed out-look because they have at least made his sense dull to all his troubles and tribulations. He does not want his sense to be sharpened so as to become alive to his age-long agony and feel the restlessness in the absence of any hope of a substantial relief. And still it is a fact that should not be missed that only such an awakening in him to his present unsatisfactory state of affairs and a determination to fight it would solve his many-fold problems. But this is for the political revolutionary to do and we must pause. Our business is only to recognise the nature of the problem and deal it to the extent it comes within our field. To take up the link of our argument, then, we have to remember that if the villager piles up the cow-dung hill just in front of his house, it is not only because he is totally ignorant of its evils. We do not suggest that ignorance has no share in it. We, however, do wish to emphasise that the ignorance has got a solid rock of necessity to stand upon and removal of mere ignorance would not be any panacea. If he has not to accumulate the dirt and dust or build the cow-dung hill near his living place, besides his being made known to the evils resulting therefrom, we have to remove the practical difficulties from his way to make suggested reforms possible. Sanitary and decent houses with sufficient air and light in them are another necessity of our villages. This also requires finances which the poor cultivator is unable to provide in most of the cases. Development of sanitary habits of living is also important and with the help of effective propaganda and sound education some-

thing can be done in this direction. But even at the risk of repetition the point must be stressed that like others the problem of village sanitation in our country is not a problem of mere ignorance but also is the result of the grinding poverty of the Indian peasant. And an effective solution of it will be possible only when it is tackled on both the fronts.

Closely allied with the problem of sanitation is that of an efficient dietary whose importance for health cannot be exaggerated. It is an unpalatable truth that an overwhelming majority of the rural population lives on the poorest of stuff. Fruit and green vegetables which are so essential for good physique are generally beyond his reach. And with the exception of the well-to-do few, even milk and 'Ghee' are not available to them. Their little children have also to grow on the same poor stuff which the adults consume. An improvement in this is highly necessary if we want our village folk to be strong and sturdy. There is a general misconception about this in the minds of most of the city-living population. It is believed that villagers are more healthy and strong than the people in the cities. But this is not a fact. If health means capacity to resist disease, which it really means, our villagers cannot be regarded as healthier than the city population. That they are capable of doing many hard jobs which a man in the city would not be able to perform, is no test of their better physique but only is the result of his being accustomed to that sort of work. Just as in the case of sanitation, any betterment in the matter of diet of our villagers is more a question of improving their economic condition than of educating them in the importance of proper food-values.

Last but not least comes the question of medical aid for the village population. One who has any know-

ledge about the condition of Indian villages in this respect cannot but feel greatest of dissatisfaction in the matter. Bad sanitation and bad food make the poor agriculturist physically weak and he is always an easy prey to a number of diseases which are a common feature of our rural life. "Most of the diseases are caused by dirt, and the absence of light and air are responsible for a lot more." Some of the important names in the list of these diseases are cholera, plague, smallpox, hook-worm, guinea-worm, Tuberculosis, and last of all comes the highly exhausting Malaria. Disease causes a threefold harm to our rural population. It may take away the life of the strong and the able-bodied thus reducing the working population of a country. Even those who survive a disease become weak and their capacity to work is reduced. The argument has all the more force in case of villagers who have little facilities for a more healthy diet to help them to recoup after the disease has left them. In fact every time they are attacked by one disease or another their capacity to visit it in future is more or less permanently reduced. Then often the villagers are attacked at a time when the agricultural operations are in their full swing. Malaria always comes in such an inopportune hour and it is not an uncommon sight to find the crops standing in the fields simply because no labour power is available in the villages to harvest them. And lastly disease leaves a very dull and pessimist attitude on the psychology of the man who becomes listless and fatalistic and his efficiency is thereby adversely affected. Thus the problem of preventing and curing the disease is very important. Besides improved sanitation and well-balanced diet, educating the villagers in the causes of the various diseases, and the possible ways of avoiding those causes is very necessary. In this connection a well-thought out campaign of public health and self-hygiene will be very useful and the villagers must be made aware

of the great havoc that such common friends of theirs as flies, mosquitoes, and rats are capable of doing. They must be taught the importance of proper drainage, pure drinking water, and of keeping the surroundings free from dirt and marshy swamps where malaria-carrying mosquitoes breed most lavishly. The great harm that the dirt and the dust do to the children's eyes, and the great good that such ordinary things as washing them on and often with cold water are capable of doing must be brought home to them. Propaganda and education can do something in this direction. But the chief point is about changing their whole mentality and make it more hopeful and optimistic. And the difficulty of doing it is very great. Because it requires a revolution in their present economic position which only can inspire them with a faith in their future and create in them a real desire to fight the unsatisfactory present. Besides the measures that aim at the prevention of disease, next important point is about curing them. This calls for two things. Provision of proper medical aid in every village and teaching the villagers the necessity of taking full advantage of it. It is also often noticed that owing to his conservatism and ignorance the villager in the first instance is not very particular about treatment under a qualified hand. He very often relies on quack-medicines that have been handed down to him from father to son and mother to daughter. Only when the condition gets serious he cares to approach a doctor, in case one is available. Then even when under treatment he is not very careful in following the medical instructions and so often leaves the treatment before-time. These are the difficulties that can be removed to a great extent by a sympathetic approach to them. The existence of a village doctor with a sense of service towards the people can do a lot in this respect, is an undoubted fact confirmed by experience. The real problem is of providing

proper and adequate aid. Government has to feel its responsibility in the matter. Co-operative dispensaries also can do something. But we should not forget that under the existing circumstances, the cultivator has very little to spare for medical aid which must be made free to him. Some well-tried and cheap medicines must be made popular to fight the common diseases and by means of public lectures and magic-lantern slides the villager should be taught the necessary precautions that ought to be taken in matter of diet and living in case of specific diseases. Our indigenous system of medicine should be made to serve our people to a greater and greater extent. The averseness on their part to take medicine should be fought. To prevent malaria the use of quinine should be made very popular. Thus in various ways it is possible that the existing unsatisfactory state of affairs regarding medical aid can be remedied. But the real lead must come from the Government.

So far we have confined our attention to improving the health of the agriculturist which is the first essential condition of increasing his efficiency. But with the development of body, the development of mind is also important. He must know the task that he is to do well. This requires general as well as specialised education. The need for general education is there in order to develop his faculties, broaden his vision and out-look, make him receptive to new ideas and practices and remove his social-backwardness that stands as a stumbling-block in his way in more than one way. For this a sound system of rural education is necessary. The present system of education imparted in our country is not at all suitable. It is devoid of all idealism as well as practical value and makes its recipient unfit for any useful work in life. We require a healthier education that would train not

only the mind but also the limbs of the student with a definite bent towards some productive work. Wardha system is a great step in this direction, though it is still in its experimental stage and has not become stereotyped. Thus a sound system of rural education with rural inclinations is our first need. It is necessary that girls and boys both get the benefit of a primary education and relapse from literary must be prevented by making necessary arrangements for reading-rooms and libraries. And not only the children, but education of the adults (men and women both) is also equally important. Besides ordinary literacy they should be trained in the theory and practice of true citizenship. Mere reading and writing is not so important from their view point. The widening of outlook, and an understanding of good things necessary for their life and progress are to command greater attention. Night schools, continuation classes, libraries and reading-rooms, magic lantern, cinema and demonstration trains are the various agencies through which the programme of adult education can be carried on. Side by side this general education a knowledge in better methods of agriculture is equally necessary. The Indian agriculturist has a very sound background of agricultural work built on the traditions of several centuries. To-day, however, it has been initiated by his ignorance and many evil-practices are mixed with the good ones. His illiteracy and conservatism combined with his most deadening circumstances have kept him ignorant of the modern scientific system of cultivation. It is necessary that he is made conversant with these up-to-date methods of agricultural practice and adopts those that suit his circumstances and conditions. All this is the work mostly of the Government through its Agricultural Departments helped by co-operative and other departments that are concerned with the welfare of our agriculture and cattle-wealth. Individual

private efforts organised or single may also be of some help. This then is the second essential condition to make the Indian agriculturist more efficient than he is to-day.

There is a third factor also not in any way less important. It mainly concerns the agriculturists' outlook, and psychology towards life. Before you expect him to put in the best in him in his work, you must assure him that the reward resulting therefrom would be his and his alone. If the fear constantly haunts him that he is liable to be deprived of the results of his efforts by a third party, be it Government, the middleman, or the money-lender, he would feel little enthusiasm for taking to better methods. This involves the all-important questions of his relations with the state and the landlords, of the marketing organisation, and of the indebtedness problem. All these topics would be dealt with in separate chapters. Here we have only to take note of the fact that solution of them to the satisfaction of the poor cultivator is highly urgent to increase his efficiency. We may name it either the psychological or the moral factor. The agriculturist must feel that the work that he is doing to the best of his capacity is his own and he and he alone is going to benefit by it. This would require a complete overhauling and rehabilitation of our entire rural economy.

Besides the owner-cultivator, there are two other important elements that concern the human factor in the agricultural industry of the country. One of them is that of the landless labourer while the other one is that of the zamindar. To take the landless labourers first. Theirs is a class which depends for its living on doing agricultural work on other men's land for wages. They either possess no land of their own, or the land possessed is in such a small bit that its cultivation is not a practicable proposition. In both the cases they hire themselves out to work on others

fields on fixed wages. Their number has been constantly on an increase. The growing population in the country with no new outlets to absorb it is the chief cause of this growth in the number of landless labourers. So far as their efficiency is concerned it is not in any way, as it cannot be, better than that of the cultivator himself. They have the same drawbacks and difficulties to face as he has and in general terms we may just remark that the measures that are advocated and adopted to improve his efficiency would also be useful for them. One way of solving the problem of these landless labourers, who show a tendency towards an increase, is to remove them from agricultural work. But this as a measure of reform pre-supposes the arrangement for some alternative occupations to engage them. This means the same good old question of planning the whole economic life of the country, which would include the planning of agriculture and all sizes of industries. Hence the same realization is forced upon us in this connection also, that the problem is a complex one admitting of no simple and cut and dry solution aimed at reforming any one particular aspect of the whole economy. The problem of India's economic life stands as one whole and any successful solution of it must be based on this very important approach to and understanding of the whole-question.

Another important factor in our rural economy is that of the zamindar. He is of recent growth owing his origin to the well-conceived designs of our white-masters who have sought and found in him a force always supporting the British Raj and opposing the country's march towards its destined goal of political and socio-economic freedom. The point that, however, concerns us immediately is about the place of the zamindar in the agricultural economy of the country. This would

depend upon his utility in the schemes of not only to-day but to-morrow as well. If the example of England has to guide us in making our opinion about India, we should expect a very useful rôle from our landlords in bringing peace, prosperity and happiness to our rural community. It is a fact known to the students of English agriculture very well that much agricultural reform in England in the eighteenth century owed its origin to many big landlords of the country. A good landlord with the amount of capital, intelligence and enterprise that he has at his command can introduce many very useful reforms in the agricultural economy of the land. He can, for example, start model farms, produce good seed and make them available to the agriculturists of his village, keep stud-bulls and thus help in the improvement of the cattle-wealth of the village, make use of improved implements and more scientific methods of cultivation and thereby attract others also towards their use. In one word he can act as a living centre from which various currents of reforms in the field of agriculture, education, and social life may flow and overwhelm the whole village. Because of his care, interest and paternal affection he can be a friend, guide and philosopher of the village-folk and may be hailed as their trusted leader. But history and present position of the Indian landlords do not permit one to depend upon any such expectations in future also. The Indian landlord and with him the whole city-population have displayed a great indifference and ignorance towards our village life and its manifold problems. Absentee-landlordism is the common feature of Indian agricultural economy. Attracted by the luxurious and ease-giving life of the cities with all the conveniences as well as inconveniences and evils of a modern civilized existence, the land-owners in India have left their landed estates for big cities and towns and their only interest in their landed property has been confined

to the taking of rent and exploitation of the peasantry to the utmost possible extent. We do not deny that an Indian village lacks many facilities, such as of medical aid, education, railway, post office and a social life, without which life becomes a dull and drab existence for an educated and civilized man. But this present unsatisfactory condition of our villages in all these matters is to a very great extent due to the lack of interest that the landlords and others living in cities have shown towards them. The exodus from our villages of young men of intelligence and enterprise, if on the one hand, has deprived the villages of their best human materials and increased and accentuated their poverty, on the other hand it has also increased the vice and difficulty of city-life manyfold. An extreme example of the ignorance of village life in the young men and women of our country was brought to light when one of the authors with an unpleasant surprise discovered that one of his students in the college classes did not know that wheat and barley were two different crops. She was under the impression that one was a by-product of the other! Thus the net result of all this discussion can be summed up in the view that landlords in India have never cared to understand their duties and responsibilities toward their estates and have developed a most parasitic system of existence. They have not only been of no help and service to our rural community but politically also they have acted as a drag on our progress. Their natural lining up has been with the reactionary and alien interests in the country and there appears to be little hope of there coming about a change in their attitude. The tough fight which they tried to give, and to an extent successfully, when the Congress Governments in different provinces wanted to pass legislative measures about ameliorating the condition of the peasantry, *e.g.*, in the U.P., is an instance in the point. Hence our only conclusion is that in the first

instance the existence of any middle man between the real cultivator of the soil and the Government is unnecessary and must be avoided but if the historical circumstances have in any country given birth to such a class of middle men it can justify its existence only by establishing its leadership for the betterment of the people. This not happening, its existence is only a dead weight from which the sooner it is got rid of the better it is. In India the first two things have not happened. We have not been able to avoid a class of land-owners, and it has never justified its existence so long. And, therefore, perforce we are driven to the conclusion that unless a revolutionary change takes place in the attitude of this aristocratic and feudal class, for which there is little hope, it is bound to act like a fifth wheel in the way of agricultural progress, thus following the royal road to its ultimate extinction, perhaps sooner than expected. Here one more point needs clarification. When we argue that a land-owner must live on his own land and take active interest in its cultivation and improvement, our suggestion applies not to those persons who have simply invested their savings in the landed property though they follow quite a different profession in life, but only to those whose main sources of income flows from their land and have no other occupation to follow. This finishes the question of labour problems concerning our agriculture and we shall now proceed to discuss the other ones. //

Methods of Cultivation.

Besides good and sufficient land and efficient labour, the third important factor affecting the productivity of land is of methods of cultivation followed. A more scientific and careful system of husbandry would yield much more than an unscientific and thoughtless one. In India methods of cultivation vary from place to place showing a vast

difference in their efficiency. But taking the country as a whole we can say that there is still much room for improvement in the methods of cultivation followed by the Indian agriculturist. His ideal should be, like the Chinese and the Japanese farmer, more and more intensive cultivation of soil so as to raise the maximum of yield from the minimum of land. His system of agriculture in the matter of care and economy of land should conform as near to market gardening as possible. Thus it is necessary that he devotes more thought than he does at present to the ploughing of land, harrowing and levelling and preparation of soil, weeding, thinning, and spacing out, scientific rotation and mixture of crops so as to minimise the soil exhaustion as result of raising crops and also to maximise profit, and introducing leguminous or other fodder crops in a regular system of rotation. The system of multiple cropping as well as of having quick and catch-crops is also important that should command his attention. And last but not least important is the question of a careful selection of seed as well as of protecting the crop from various crop diseases and rats and locusts. The directions in which improvements in all these matters would be desirable are clear. So far as ploughing goes, it is necessary that it should be deeper than at present particularly in dry tracts. Good "ploughing not only conserves moisture but helps the aeration of the soil, kills the weeds, and turns up weed seeds and insects for the birds to eat." Similarly "harrowing (levelling the land after ploughing is done) and weeding are extremely important both to preserve the moisture in the soil, to assist aeration, and to keep the land clean and give the crops a chance to grow properly". In the preparation of soil what is known as dry farming has not at all been paid any serious thought in our country. Dry farming is practised in those areas where rainfall is precarious. "The method consists in

so manipulating the soil as to conserve the little moisture that is available, by deep and constant cultivation of soil." Artificial manuring has also an important place in soil preparation and we shall deal with the problem under a separate heading in view of its great significance. Scientific rotation of crops means selection of the order in which one crop should follow another so that the soil exhaustion caused by one may be made up by another. The introduction of commercial crops has to an extent upset the ancient system of rotation which served very well for soil fertilization. Thus growing of a pulse crop is good for recuperating the land. 'Rahar' and 'mung' crops besides providing the soil with natural manure serve another very useful purpose. Their deep and extensive root-system penetrates and breaks up the lower soil layers and greatly improves permeability and aeration. This makes up the deficiency of deep cultivation to an extent. Growing of mixture crops as wheat and barley, barley and gram, barley and peas, reduces the farmer's risk and gives him a second line of defence. Sowing more than one crop in the year and introducing quick-maturing crops are useful from the point of view of getting the utmost out of the soil. Great progress has been made in this direction in Japan. To avoid the wastage of land-time "some crop which may be transplanted is started in a forcing-bed for setting out between the rows as soon as the first crop begins to mature. With individual fertilising, it becomes well-rooted and is ready for its important growth by the time the earlier crop has been harvested and the land worked." Much can be done in this direction in India as well. The importance of good seed for increasing the yield of the land cannot be over-emphasised. Seed societies on co-operative lines have done some useful work in this connection. The creation of a separate organisation for the distribution and testing of seed under an officer

of the Agricultural Department was recommended by the Agricultural Commission. Lastly we have to mention the great significance of protecting the crops from various crop-diseases and pests. The causes of such diseases in the case of plants are the same as in the case of men—too little food or wrong kind of food. “Badly ploughed land will harbour insects, but will not hold water. Neglected banks and terraces, unvolted manure or shortage of manure, failure to weed or hoe, too much or too little water—all these things mean unhealthy crops, and unhealthy crops, like unhealthy children, cannot resist cold, drought or insects.” Therefore the cultivator must be on constant watch to see that crops are not ruined by disease or pest. He must also apply the remedy if he finds that any disease or pest has attacked a crop.

It should be clear at this juncture that the various improvements in the methods of cultivation that have been suggested above depend for being translated into practice upon two things—the knowledge of the cultivator and necessary facilities to apply the knowledge. By means of general and technical education and propaganda in improved methods of agricultural practice conducted by the Agricultural, and Co-operative Departments, as we have already seen, the knowledge of the cultivator can be increased. So far as the question of facilities goes, it is necessary that he should be provided with such things as better implements, good seed, and sufficient manure. We shall discuss the problem of manure and implements in the following sections. Besides this, conditions about good and sufficient land must also be fulfilled without which improved farming cannot be introduced. This makes the point still more clear that no reform in the agricultural economy of the country is possible on an isolated basis. One is dependent for its success upon the other and hence

all must be simultaneously applied if any good results are to accrue.

Manure.

To maintain the land in condition of fertility is very necessary for proper yield. It is here that the importance of manuring lies. The present position in our country in this respect is not satisfactory and much improvement is called for. The first point we have to remember in this connection is that no one uniform practice about manuring may hold good under all conditions. The amount of rainfall, the type of crops sown, the kind of soil and its composition—are some of the important factors that count before any definite conclusions can be arrived at about the manuring practice in a particular area. That the land may not suffer in fertility, it is essential to keep it supplied with required quantity of certain ingredients as nitrogen and phosphate. This is possible in more than one way. Natural recuperation by leaving the land fallow for a certain period, rotation of crops fixed with a view that soil exhaustion caused by one crop may be made good by another, and outside addition to the soil of manurial substances are the three important ways of keeping the land in a fit condition of fertility. The external manuring may again consist of either green manure such as provided by hemp or Gwāra, or the village dirt and refuse including cow-dung, urine and human excreta, or what is called the commercial or chemical fertilizers. Any one or more methods maybe followed either independently or jointly and one is also often found helpful to the other. Another thing that needs special care in the matter of maintaining soil fertility is that of bacterial activity. Proper handling of bacteria in relation to the soil and plants is thus an important condition of successful agriculture, because the presence of appropriate bacteria is very helpful in supplying

nitrogen to the land. "In India climatic conditions and the high temperature of the soil enormously enhance the activity of soil bacteria and with it the importance of such methods of adding to the fertility as depend upon their action."

Coming to the existing manuring practices in India, we find that though the Indian agriculturist to a smaller or greater extent follows all the different methods but still there is much that remains to be done in this connection at present. Fertility is maintained by our peasant mostly through fallows, crop rotation with a definite place to leguminous crops, and a limited amount of cattle manuring. The use of commercial fertilizers such as ammonium sulphate, bonemeal, fish manures and oil-cakes is also gradually increasing, thanks to the propaganda of the Agricultural Department. The use of ammonium sulphate and super-sulphate has increased of late. The greatest handicaps in the way of the Indian farmer in respect of commercial fertilizers are, however, their cost and proper guidance. During these years manufacture of the inorganic manures has been found possible at prices that may suit the cultivator. The practice of exporting oil-seeds has adversely affected the manure-economy of the country as the poor cultivator is deprived of the supply of oil-cakes as a natural consequence. The system of crop-rotation and fallowing has also suffered on account of the temptation on the part of the agriculturist to grow commercial crops and make use of the land constantly so as to have better returns in money. Regarding the value of leguminous crops, in rotation, it has always been appreciated by the Indian cultivator but the Agricultural Department should conduct further investigations in the best methods of employing these crops to increase soil fertility. Further, there is a vast amount of manurial

wastage going on in our country because the Indian cultivator to-day for one reason or another does not make proper use of either the cow-dung that he burns as fuel or the village dirt and rubbish as well as the human excreta—all of which make very good and cheap manure for the land. So far as the use of cow-dung is concerned, it is necessary that our village folk must be provided with other facilities for fuel such as by growing forests near the village area. Unless alternative arrangement for fuel is made, the use of cow-dung as manure must remain a day-dream. Similarly it is necessary that the existing prejudice against the use of night soil as manure must be ended. In this respect the Indian farmer has much to learn from the Chinese or the Japanese. The urine of the cattle is also a very good fertilizer but as the practice of keeping the animals on the farm-land is not very common because of certain difficulties, much of the urine is wasted to-day. To make use of it as manure even when the cattle are kept at home one thing may be done. The stables and the cattle yards should be sprinkled with earth. This would make the place comfortable for the cattle, and the urine would get soaked into the earth which afterwards must be scraped up and taken to the fields for manure. Equally important is the fact that every kind of waste in the village including the human excreta should be collected in pits and used as manure. It is to be remembered in this connection that raw and unrotted manure if thrown in the fields would do harm rather than any good. Because the raw manure, which is unfit to feed the crops, would use water and air in the soil to rot itself and thus the crops would be deprived of them and dry up. Hence rotting the manure is very essential. This is done by collecting all the dirt and dust in the pits. There are two ways of doing it, either by making compost or by means of ordinary collecting pits. "Compost is made in

shallow pits about two feet six inches deep." Half of the pit is filled with waste material and then water is added to it. At the end of every fifteen days the manure is turned over, water being added whenever necessary to keep the fermentation going. In about two months time the manure gets ready for the field. In case of collecting pit, of about six feet depth, when it is full of the rubbish and dirt, it is covered with several inches of earth and left to rot. If water is added occasionally the process of rotting would be expedited and the manure would be ready earlier than otherwise. Every cultivator should have two pits one rotting and other filling. These pits may be used not only for throwing the dirt, rubbish, and cow-dung but also as latrines. For privacy sake they may be screened off and for convenience planks may be placed across them. It is also necessary that a few handfuls of earth are always thrown in after every use. However, the better thing is to have separate pits for latrine purposes, the night-soil collected therein to be used as manure. Another direction in which waste continues at present concerns the animal bones which lie outside the village and are allowed to decay. Thus a very valuable source of manure remains unused. To sum up the whole discussion about the manuring problem of the country, we must say that the present position in this respect is not at all satisfactory and an improvement in various ways can be made possible. All that we require is to awaken the agriculturist to the need of regularly manuring his fields, give him the most practical guidance and expert advice in the matter, and last of all to remove certain difficulties and hinderances that stand in his way. Because it must be very well recognised that maintenance of soil fertility is of primary importance to increase the productivity of the land.

Implements.

For successful agriculture suitable implements are another necessity. The position of the Indian farmer in this respect also as in all others is not at all satisfactory. He has the most primitive kinds of tools to use. Under the conditions he works to-day the ordinary wooden plough, which looks like 'a half-open pen-knife' and just scratches the soil, the hand-sickle more suited to use by a child than a man, the old-fashioned winnowing tray that sifts the grain from the chaff and the rude chopper that cuts—all have their advantages in their cheapness, lightness, portability, easy make and repair. But the advantages are at the cost of efficiency and if we want the productivity of the land to increase improvement in them would have to be made. The only important point to be kept in view in this connection is that the improved implements must not be such as are beyond his reach because of their expensiveness or do not suit him because they cannot be repaired in the village, or their spare parts are not easily available or they are too big and heavy for his small plots of land and his draught animals. In most of the cases large-scale agricultural machinery, such as the tractor, the harvester and the combine that are used in the extensive farms of America and other countries of the west would not be of any use for the small-scale cultivator of India. This difficulty, however, to an extent can be overcome by co-operative or joint farming. In many provinces in India, for example Gujarat, Upper Sind, northern part of Bihar and Orissa, and the Central Provinces, the use of the tractor-plough which makes deep and thorough cultivation possible with a saving of time is increasing. Other improved implements such as the iron plough, the harrow and the hoe, the seed-drill and the fodder cutter the sugar-cane crusher, and the small pumping machinery and the water-

lift have also been introduced in many places, but still even the fringe of the problem has not been touched and much remains to be done in this direction. A successful solution of the question of improved implements for the Indian cultivator would need several simultaneous efforts being made. The implements must be of such size and shape as can be used by the poor cultivator and his draught animals and improvements in the existing types must be made from this view point. The Agricultural Department should carry on investigations and experiments with the help of its expert staff in this field. The implements should be manufactured in the country itself and their spare parts should be made available. They should be cheap and simple to handle and within the capacity of the village blacksmith to repair them in case of need. The Railway authorities also must be made to do their duty in the matter by granting concessional rates on agricultural implements and machinery. State-aid should be liberally available to the manufacturers and facility of cheap and good raw-material in form of iron and steel should be provided. And after all this has been done, another essential point to be taken note of is to conduct a country-wide propaganda to persuade the agriculturists to take to improved implements. Because many of them who are otherwise quite inclined to use the reformed tools are hesitant merely for the fear of being ridiculed by others and being regarded as cranks. The Agricultural Department and the Co-operative Department and societies can put their efforts together to remove this prejudice from the mind of the farmer. At the same time it is also necessary that the cultivator gets proper advice and guidance in the matter of using the improved tools. The appointment of agricultural engineers by the Agricultural Department for this purpose is a healthy move. The Co-operative Societies and other organisations and

persons interested in rural-welfare can also do much good work in this connection. These are then the different ways of promoting the use of better implements by our rural population engaged in agricultural work. But the point must be emphasised even here that isolated reform in this sphere only would meet little success. What is required is that the use of improved implements should also form a part of the many-sided and comprehensive programme of agricultural reform in the country. That is the only way to success.

Live-stock.

The importance of cattle in the agricultural economy of the country is well-known. They are used as draught animals to drive the plough, irrigate the field and draw the bullock-cart. Besides this, they are also the principal source of manure commonly used. They form the basis of a well-organised dairy industry whose significance as a subsidiary occupation for the cultivator is great. Again, it is they which fulfil the country's demand for such an important item of our diet as milk. It hardly needs any mention that in a vegetarian country like India, milk is the only easy means of nutrition available to the people at large which can keep them healthy and strong. Thus it is more than clear that the existence of good cattle is the first condition of any scheme of rural development. Bad cattle are a definite drag on the economic development of our country as they mean bad farming, and also bad business. But in spite of this strategic importance of cattle in our rural economy, our present condition in regard to them is most unsatisfactory. We have an excessive number of cattle, all weak and ill-fed, and, therefore the real working capacity of the animals is not sufficient. As a result a vicious-circle has been formed at present. Because cattle are weak and ill-fed, a larger than the usual number is

required to do their full work. This increased number in its turn again becomes difficult to feed well, and poor and under-fed cattle are the natural consequence. To meet this deficiency in quality, again a larger number becomes necessary, and so the cycle starts which takes a vicious shape that needs be broken at as many points as possible.

If we examine the whole question of improving the cattle wealth of the country, the problem resolves itself into a three-fold aspect—food, disease and breed. Let us then discuss it under these three heads and suggest suitable remedies to remove the existing defects and drawbacks.

To take the problem of food first. It is admitted on all hands that arrangements for proper feeding should be considered of first importance for developing the present position of livestock in our country. This requires two things. First, there is a large number of useless cattle in the land whose elimination would reduce to some extent the present burden on the supply of the fodder. This means in straightforward language killing the old and worn-out bullocks and barren cows. But the deep-rooted religious sentiment of the people go against any such step being even thought of, though constant under-and-ill-feeding of the cattle means nothing better than killing the animals by instalments. The second thing, and which is the only alternative left to us, is of economising the existing fodder supply increasing its quantity for the future. The fodder problem as we find it to-day is quite serious. In years of drought the agriculturist suffers not only because of food famine but also fodder famine. In fact the latter assumes a more threatening proportion as fodder being of more bulk and less value cannot bear the cost of transport from one place to another as grain can do and hence the surplus of one area cannot be used to make up the deficiency of

another. In normal times also the supply of fodder fails for a number of months in the year—from December to July. The period between March to June is specially difficult when the cattle have to roam about on barren fields in search of a precarious living. With the rains grass grows and the hungry cattle over-feed themselves as a result of which various diseases develop. Thus the one difficulty regarding cattle food is of irregular distribution throughout the year. This can be overcome to some extent by efficient storage. "Silos are essential in areas where well water or perennial canal water is not available to assist fodder production. A silo is a pit in which green grass and fodder crops are tightly packed and sealed with earth at the top to keep out air and water. Fodder thus stored will keep fresh for years and is the best reserve possible." It is also necessary that forest administration of the country should be more sympathetic in this respect and in times of scarcity the possibilities of fodder supply from the forests should be carefully investigated. Next important thing is to make the best use of the existing supply and prevent all possible wastage. For this purpose stall-feeding should replace grazing as far as possible. It would mean a double advantage. When the cultivator has to cut grass for his cattle instead of taking them to grazing lands and leaving them free to feed themselves, there would arise a natural inclination on their part to eliminate the useless and superfluous animals and thus save time from cutting grass for them. Further, grass-cutting should be preferred to grazing because the latter deteriorates both the grass and the grazing-lands. The common pasture land in the village to-day is often blocked by such useless trees as brambles and also by useless bushes of all kinds. Villagers should be made to understand the value of preventing such a wastage particularly when the pasture land is already insufficient in area. The use of chatt-cutters

is also important to economise fodder. The Punjab peasant is realising this. Last but not least, attention must be paid to the breeding of dual-purpose animals which would render buffaloes unnecessary as sources of milk and the existing pressure on the fodder supply would be somewhat reduced. It is the business of the Government to give every kind of encouragement to the cultivators by means of prizes or remissions of land-revenue or in any other way for keeping good cattle. So far as the question of increasing the present supply of fodder is concerned, the possibility of having more land under grass is not at all bright. The growing pressure of population on the land has on the other hand set the tendency of encroaching upon the better pasture land for cultivation purposes. The only hope, therefore, lies in increasing the productivity of the existing grass land. The raising of green fodder, and the growing of Egyptian clover and leguminous fodder crops are all important steps to be popularised and encouraged. Cotton seed as a cattle food is very cheap and efficient and therefore should be increasingly used for the purpose. Thus it is by following the threefold programme of increasing the present yield of the grass-lands in the country, encouraging their more economical use and promoting efficient storage that the food-problem of our cattle can be solved to a very great extent.

After food another important thing is disease. Good food would naturally mean strong and healthy cattle capable of resisting disease. Still it would be too much to expect that an altogether immunity from disease is a practical proposition. Like men cattle also have their periods of ill-health and epidemics and every sort of preventive and curative measure must be adopted to save our cattle-wealth from destruction and deterioration.

Cattle diseases are responsible not only for cattle mortality but also for their enfeeblement which reduces their working capacity and as a result makes it necessary for the cultivator to keep a larger number of them than would have otherwise sufficed had they been quite healthy. To protect the cattle from falling an easy prey to disease certain precautionary measures are very important. The stables and the stalls where the cattle are kept must be quite neat and clean with adequate provision for fresh air and sun. The village pond where the cattle drink water should also be protected from the village rubbish and the drainage water. Wells should have troughs. Similarly care should be taken that infected cattle do not mix with healthy ones. In this connection it would be very useful to take the ordinary precaution of segregating cattle coming from infected, suspected or unknown environments. Inoculation of the cattle carried out with sera and vaccines to check the contagious diseases from spreading should be made more and more popular. This preventive inoculation may be free of any charge. When in spite of all the preventive steps diseases spreads, adequate veterinary aid must be made available. Though the Veterinary Department has already done a lot of good work in fighting cattle diseases and reducing their incidence, still much remains to be done. The veterinary hospitals are very few in number and generally the villagers have to depend on their own quack methods of treatment. The Agricultural Commission was right in recommending that in every district there should be a central veterinary hospital with a number of dispensaries spread over the villages. The number of the staff should be increased and they should be required to go on tours and visit the villages that have no dispensary. Research work in cattle diseases is also necessary and must be encouraged at the Muktesar Institute. Co-operative veterinary hospitals may also

be established. One difficulty in the way of veterinary hospitals is the apathy of the villagers themselves to get their cattle treated under proper veterinary aid. They on account of their conservatism are generally found reluctant to make use of the veterinary hospitals. But constant propaganda by the Agricultural, Veterinary and Co-operative Departments and other public and private agencies would go a long way in removing the prejudices of the villagers. And the actual benefit that they could see from veterinary aid would do the rest. This reluctance on their part is already on decrease in the areas where Veterinary Department has been working.

Lastly we come to the all important question of improving the cattle-breed of our country. That the existing condition is highly unsatisfactory needs no comment. Our cattle both as draught as well as milch animals are not good and require much improvement. Selective breeding is the only way to achieve this objective. Inbreeding should also be avoided to check deterioration. This can be done by passing on stud-bulls from one village to another after a particular period of time. One important thing for selective breeding is the elimination of all other bulls except those selected for breeding purposes. Castration is the way to do it, and the Veterinary Department has found out such methods of castration as do not offend the religious susceptibilities of the people. Another thing to be taken care of is about enclosing the cattle to avoid uncontrolled coverings. Then coverings must not only be controlled but a complete record must be kept of them. Cows must be selected and registered, bulls' coverings should be noted, and the progeny should be earmarked and entered in a register. Unless this is done we cannot find out the best bulls and cows for breeding. If breeding is done for milk records of milk should be

kept. Though separate breeding for draught and milk is good, but for the Indian farmer the more practicable measure would be breeding for the 'double purpose.' The average milk-giving capacity of our cows can be increased a good deal without interfering with their capacity to produce good draught bullocks. Now coming to the agencies for carrying on the work of improved cattle-breeding, there can be several of them. The big landlords, the co-operative cattle-breeding society, the Government through its Agricultural Departments and cattle farms, and the local authorities, that is the village panchayats, the District Boards and also the Municipalities—all of them can have their valuable share in this most valuable work for the rural population of India. The landlords must be made aware of their responsibility in the matter which also has its advantages for them also. They can keep stud-bulls and make them available to the villagers. The co-operative society is the joint way open to the small farmers. There is an opinion, however, held by some that as the work of cattle-breeding requires more individual attention, co-operative method does not suit it very much. The Government can further expand and intensify the cattle-breeding work already done by Imperial and Provincial Departments of Agriculture and the cattle farms especially at the Hissar, Hosur, and Madras farms. District Boards can also do much by organising cattle shows and thus encouraging people by giving prizes and premia to those who bring the best cattle at the show, by helping in the work of finding out as to which breeds would suit which areas best, by giving money-help for this work; and by framing and enforcing bye-laws for the registration of approved bulls and elimination of the rest, and last but not least by conducting classes and propaganda work to teach the villagers in the principles and practice of efficient breeding and keeping of the cattle. Village

panchayats can also work on similar lines as well as keep stud-bulls for the benefit of the villagers. The aim of the municipalities should be to remove the cattle outside the limits of the town, but this can be possible only when in the neighbouring villages good dairy arrangements are made to supply pure milk and ghee to the people of the towns. Hence municipalities can help the breeding work in their neighbouring areas by money and guidance both. In the States, the Princes, if they care to evince any interest in this absolutely innocuous work of public good, can also do something. The present Viceroy of India has done a little by attracting public attention in this matter by his scheme of 'gift bulls' and cattle-conferences. But real success in such things call for not temporary and sporadic interest and efforts but the following, patiently and perseveringly, of a well-defined and country-wide programme with the active co-operation of the masses themselves. Lack of any reserve for unforeseen expenses and a rainy day is another handicap of the Indian farmer, which, however, is the direct result of his present poverty. Agricultural insurance, which has not taken root in our country so far, can do something in this direction. Cattle and crop insurance societies on co-operative lines offer one such measure of reform and should be encouraged.

Our discussion of the various problems concerning the present productivity of Indian agriculture and the ways to improve it must have led us to the realization that the whole question is very difficult and complicated and successful solution of it is possible only when an all-round effort is made to tackle it. The first fundamental of agricultural reform in our country is that it must be all-sided and not isolated. Any attempt to solve only one of the many problems would never succeed. The second feature of this reform is that it must be over-hauling in its

nature. No surface scratching would do. A natural corollary of this is that the state must take the initiative in the matter and by its sympathy and good will for the public-weal should infuse that self-confidence and hopeful outlook in the people without which nothing can be really achieved as only under such a condition of confidence and hopefulness the people's co-operation, that is so necessary, can be had. Can any other than the National Government truly representative of the people's will be expected to rise to the occasion and conduct a programme of national rejuvenation is therefore a question that hardly admits of two honest answers.

CHAPTER IX.

Agriculture-Marketing.

The marketing of agricultural produce is a difficult problem in all the countries of the world, because of the isolation of the agriculturist. The very nature of the industry is such that isolation is inevitable. The isolation of the peasant raises certain difficulties of marketing. This isolation can be removed only partially by the development of communication and transport, as it is inherent in the occupation of agriculture, while it gives rise to a system of itinerant brokers, carriers and intermediaries collecting the agricultural produce from the entire country side. Further in an agricultural country marketing and credit depend upon each other, the money-lender supplying credit from season to season with his eyes on agricultural crops.

In India the cultivator receives a very low price for his produce and this is why he does not take to the advice of the agricultural department as he knows that the price he will get for the improved variety will be low. The peasant is robbed at many points by a chain of intermediaries when the agricultural produce moves from the village to the mandis and from there to the final purchasers. No where the cultivator is so much handicapped in marketing his produce as in India.

Lack of means of transportation and communications in rural areas, exceedingly small scale cultivation which leaves very little surplus for sale, and the universal indebtedness and financial backwardness of the cultivator places the cultivator at the mercy of middlemen and intermediaries who rob him to the utmost and he secures a

very low price of his produce. 'In most cases the peasant is not free to sell his produce at the best price as he has already hypothecated his crop to his creditor.' In India almost every farmer is a debtor and the village money-lender is both a credit supplier and dealer in agricultural produce. On account of frequent failure of crops the money-lender who keeps men, cattle and crops alive has a greater influence on the disposal of produce than elsewhere, those who are free to sell find it very inconvenient and expensive to take their produce to the big *mandis* because the quantity is very small and the communications are very defective. They have to sell their produce to *beoparis* or carriers in the village itself. The better off and bigger cultivators go to *mandis* but they also do not get a good price on account of the defective organisation of Indian mandis and malpractices which are prevalent in those places. Thus the credit suppliers, carriers, and the dealers in agriculture produce become partners in an expensive system of credit and marketing which diminishes the true income of the cultivator to a very great extent.

Bad Communications:—No doubt the great variety of itinerant dealers and carriers in India is chiefly due to unsatisfactory communications. Communications from the field to the villages and from villages to the mandis are often extremely poor and defective. Extremely bad *kachha* roads, lanes, and tracks connecting village with markets not only add to the costs of transportation and aggravate the strain on bullocks and other pack animals, but lead to the multiplication of small dealers and intermediaries. Most of the villages in India have no metalled roads and the *kachha* roads put a tremendous strain on bullocks, moreover there are no bridges on the rivers and streams which also makes transportation of agriculture produce difficult. In rainy season these ways are

turned into pools of mud and become impassable. In hilly parts of India and in Deccan where the relief is more rugged and uneven it is even more difficult to transport the produce from villages to mandis. Under such conditions it is natural that a class of carriers and intermediaries will multiply. Host of carriers, pheriwalas, banjoras, and beoparis which one comes across in India collecting the produce of the villages is directly due to the bad communications in the villages. Bad communications also restrict markets by hindering cheap and rapid movement of agricultural produce. - Owing to the defective communication the cultivator is often at the mercy of the intermediaries specially in hilly parts, semi-desert areas, and forests areas as he can alone command enough animal power to undertake the transport of produce.

Agriculture produce from villages finds its way to the mandis on bullock-carts, pack animals such as camels, ponies, buffaloes, donkeys, or head-loads. In Eastern Bengal and Assam river transport is still of considerable importance. The major portion of jute crop is brought to Calcutta by water-ways. In Deccan besides pack animals Godavari, Krishna and their canals (including Buckingham canal) also carry a considerable volume of trade. In hill areas pack animals and head-loads are very common, in dry and arid tracts only camel transportation is possible. In Rajputana and North-Western part caravan traffic still continues. In U.P., Punjab, Bihar and West camels, ponies, donkeys and bullock-carts are used. Ponies and donkeys play an important part in India. Motor transport has considerably increased during recent years. Fruit, vegetables, grain, and cotton is transported to long distances by motor lorry. Bad roads, lack of mechanics, inadequate number of petrol depots and seasonal nature of traffic prevents the lorry

from becoming a very important means of rural transport. If roads are developed the Motor Transport may become very important. Recently in Meerut district tramway has been constructed and in Bihar there was a proposal of constructing aerial rope-ways for bringing cane from villages to sugar factories. These are interesting experiments but nothing can be said about their possibilities at this stage. Thus the first essential need of rural areas is good roads.

Village Sale:—Where the cultivators are more isolated or the means of communications less developed marketing is less organised, on the other hand marketing is efficient in areas growing important money crops such as wheat, cotton, sugar-cane, hemp, oil-seeds, vegetables, and fruits, and which possess better communications. In outlying areas as soon as the harvest is ready for disposal, the country-side becomes full of itinerant cartmen, or owners of pack animals who collect the village produce and bring it to the markets. Besides, the *beoparis* and cartmen going to the villages themselves for collecting agricultural produce visit the periodical markets called 'hat' or *panith*. In India custom has established bi-weekly, weekly, or fortnightly markets in country-side where the cultivators sell small quantities of agricultural produce and buy cloth, salt, kerosene oil, ornaments etc. These periodical markets afford opportunities to small itinerant dealers for collecting agricultural produce.

The major portion of agricultural produce is sold by the cultivators to the money-lender who is their creditor and also a dealer in agricultural produce or to itinerant middlemen who come to the village and collect the produce. Thus nearly two-thirds and in some cases even more than three-fourths of the agricultural produce is sold in the village itself. By selling his produce in the village itself

the cultivator secures a very low price because there is only one purchaser and therefore he is at the mercy of the itinerant middlemen and when he sells to the money-lender he is even at a greater disadvantage because of his indebtedness and the money-lender ruthlessly exploits the cultivator by paying him much less than the ruling price in the *mandis*. In some parts where the means of communication are very bad as much as 90 p.c. of the produce is sold in the village itself. The main reasons responsible for the high proportion of sales in villages are as follows. The first most important cause is the smallness of marketable surplus. Individual holdings are fragmented and Indian cultivation is essentially a small scale one. The quality is also poor in most cases. Thus the quantity of marketable crops being too little and quality being poor the sales are mostly confined to villages. Commercial crops are an exception. The intention of the peasants producing them is all along to obtain a good price, hence they are prepared to take greater pains in marketing these crops but the circumstances are often against them: Transportation difficulties form another great difficulty in marketing. Further the cultivator not knowing the procedure of the wholesale markets finds himself lost even if he ventures sometimes to take his produce there. He has to place himself in the hands of *dalals* who at times cheat him, and there are other malpractices which put a heavy burden on the cultivator.

The well-to-do cultivators however keep carts and send their own produce to the *mandis*. In India it is estimated that only 30 p.c. of the total produce is directly sold by the cultivators. As hinted above the cultivator has to face certain difficulties here as well. There is a great diversity of weights in different markets which give rise to the possibility of short weighments. The cultivator

has to engage a broker and these brokers negotiate terms in a secret code. This creates distrust in the minds of the sellers. It also happens that after the carts have been bought and the produce unloaded a poor price is offered. Or if in certain instances having bought the whole cart of produce on the basis of a sample and when cart has been unloaded and the produce spread on all sides, the buyer refuses to pay the agreed price on the plea that the stuff inside the cart is not as good as on the top or on the exposed side. The only alternatives in such cases are either to reload the cart and take the produce back home, or to dispose of it by accepting the reduced price.

Lastly in every whole-sale *mandi*, dues or charges of one sort or the other are levied on the sellers making the marketing expenses still greater and diminishing accordingly the desire of peasants to sell in these markets. These are the factors normally responsible for the disposal by the cultivators of a large part of their produce in the villages. Thus villages and the village markets are more important from the point of view of agricultural marketing.

Existing procedure of marketing:—Over and above the *bania*, the money-lender who combines the function of dealer in agricultural produce *beoparis*, *banjaras*, *paikars* (lac trade in Bihar and Orissa) *Farias* (in the jute trade) also visit the villagers and village markets. They are essentially petty dealers working on their own capital but a few of them may be in the employ of bigger merchants, or they may be working on commission basis. Sometimes the *taula* (weighmen) and *kumhars* (potters) take samples of the produce to dealers in towns and obtain orders. Then they return to the villages, collect the produce from the cultivators, cart it and deliver it to the buyers and distribute the price among the sellers. Without these itinerant intermediaries *banias* would be the sole buyers in

the villages. All of them, by whatever name they may be called belong to peripatetic class and their main job is to collect the agricultural produce from villages and to carry it to wholesale *mandis* in towns.

These intermediaries have become indispensable on account of the isolation of the cultivator, but they exploit the ignorance as well as the financial straits of the peasants. Thus the cultivator is unable to obtain a fair price. There is a considerable difference between big *mandi* prices and small markets.

Kachha and Pucca Arhatias:—*Beoparis* and other itinerant intermediaries, village *baniyas* and those well-to-do cultivators who have a large quantity to sell and want to secure a high price come to the *mandis* to sell their produce through *kachha arhatia*. *Kachha arhatia* is a commission agent who settles terms with the *pucca arhatia* or his *dalal* and sells the produce of these sellers. He does not purchase the produce but only sells on behalf of *beoparis*, village *baniyas* or cultivators. *Pucca arhatia* is the wholesale dealer, who does not directly deal with the sellers but buys through *kachha arhatia* and is often the agent or representative of firm of buyers and exporters in towns, cities and ports. He does business on his own behalf also. In the morning he or his *dalal* goes to the *arhatias* shops inspecting goods. Some agents act for buyers and sellers both and are called *kachha* and *pucca arhatias*. The *kachha arhatia* either settles the price with the *pucca arhatia* or his *dalal* under the cover of a piece of cloth by catching one another's fingers or by auctioning the produce according to the custom of the *mandi*. If the *pucca arhatia* is trading on his own, his position is clear. Having bought the produce, he sells it to the different dealers in other parts of the country, who either supply the retail dealers, and the manufacturing concerns or export it to foreign

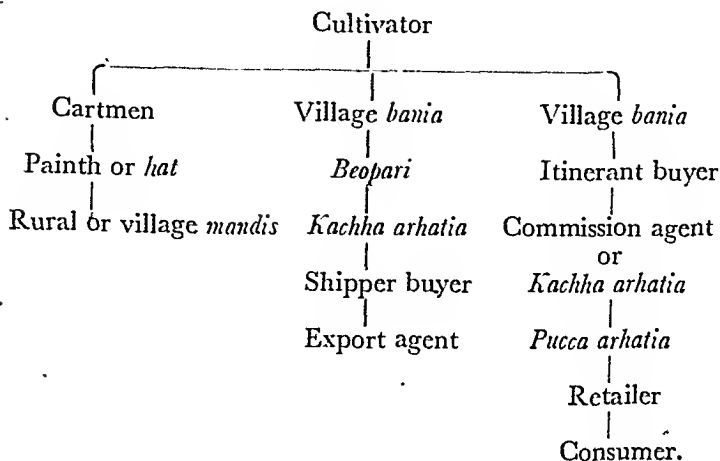
countries. But when he is acting for outside buyers he becomes for all practical purposes another commission agent. Some leading firms of exporters *i.e.*, Ralli Brothers, Volkart Brothers, and the Japanese companies maintain their own branch offices in the principal markets. A few big Indian manufacturers particularly of textile goods, also keep their employees at such centres to buy direct for them. But majority of them engage the *pucca arhatia*.

Hypothecation and disposal of crops to money-lenders:—In certain cases specially in relation to commercial crops a system of hypothecation of crops have come into existence whereby the cultivator in consideration of an advance loan contracts to sell his crop to his creditor at a predetermined price which is usually much lower than the prevailing price in the market.

Khandsari System:—In U.P. a distinctive type of *mahajan* known as *khandsari* has come into existence who advances loan many months before the sugar-cane crop is ripe on the stipulation that sugar-cane juice will be sold to him on a price settled in advance. The cost of crushing the crop has to be borne by the cultivator who also pays a rent for the *kolhoo* supplied by him.

Other Crops:—It is not only in sugar-cane that the cultivator obtains much less price than the prevailing price. In the case of cotton, jute, hemp, and oil seeds we find that the village *bania* or *beopari* by forward agreement secures it at a very low price. Even in the case of rice grower the custom of obtaining advances from 'pharia' who secures rice at a low price is well established. Similarly for pepper, ginger, groundnuts, pulses, ghee and milk advances are made by *beoparis* and *banias* in different parts of India. In almost all commercial crops the system of forward agreement by the large exporting firms and agencies is well established.

The following diagram will clearly show the chain of middlemen working at present between the cultivator and the consumers:—



Defects of marketing:—The defects of agricultural marketing may be briefly grouped as under. (1) The use of a great variety of local and regional weights or measures. (2) False weighing. (3) Levy of a variety of incidental charges and imposts. (4) Settlement of prices in secrecy by tardy and astute bargaining. (5) Predominant influence of merchants in *mandi* and absence of cultivators influence, (6) Absence of grading of produce. (7) Lack of storage facilities.

(1) **Variety of weights and measures:—**The confusing variety of weights and measures is a serious problem in India. The weights and measures committee recommended standardisation of weights in 1913-14 but its recommendations have not been given effect to. The Royal Commission on agriculture recommended that Government of India should undertake an investigation of the subject and lay down general principles to which

Provincial Governments should adhere so far as this is possible without undue interference with local trade custom.

The prime need is that all Provincial Governments and Native States should introduce standard weights and measures. In many areas the weights used for rural transactions are different from that used in *mandi* and it is the cultivator who suffers. The U.P. Government has recently introduced the standard weights in U.P.

(2) **False weightment:**—Deception in weighing by *arhatia*'s *tolas* is commonly practised in one form or the other. The ignorant cultivator and *beoparis* suffer a loss. The agricultural commission suggested that the market committee of the *mandi* should see that the weights used are correct and fraudulent practices are not prevalent. If possible the committee should set up a weighing bridge so that the cultivator by paying a little fee may get his cart full of produce weighed and secure a certificate. When the price is settled and transaction completed the cart after being unloaded may be again re-weighed and the difference may be accepted as the actual amount of produce in the cart for which the price will have to be paid by the purchaser.

(3) **Levy of charges:**—It has been shown above that a very small section of cultivators takes its produce to the bigger *mandis* for disposal. Those who go there as also the *beoparis* find that they have to incur certain marketing expenses. These charges are arbitrarily fixed by the *arhatias* and levied upon the sellers in the *mandis*. The markets are managed by the local dealers *kachha* and *pucca arhatias*. The people from rural areas have no say in the fixation of the market charges, which are determined in an irresponsible spirit. They are imposed as if they were taxes. Such is the case in organised *mandis*, while in smaller and less important ones they are not uniform in

all cases and the *beoparis* have often to pay less than the actual growers. These impositions act as a great deterrent on the latter's desire to market the produce themselves.

The exact charges differ from place to place, but their nature is the same everywhere. The usual charges levied are weighment, *palladari* for both the sellers *palladar* and buyers *palladar*, *dalali*, commission of the *arhatia*, *shagirdi*, dust and dirt, *bora bandi*, Dane, filling allowance, extra-weight, *Ramlila*, *Gaushala*, other charity, and miscellaneous. Add to it middleman's cost and margin of profit, and transportation charges the amount is a substantial amount. Thus for agricultural produce to reach from the field to the larger *mandi* marketing costs and margin of profits will be roughly 25 per cent. By co-operative marketing these charges can be brought down to a considerable extent. The agriculture commission recommended that the market committees should decide what charges shall be levied in the market and all unjust levies should be declared illegal under the marketing law.

(4) **Secret settlement of price:**—It has been mentioned above that in many *mandis* where *dalal* or broker who intervenes uses secret signs to prevent the cultivator *beopari* from following the course of long-drawn out astute bargaining. In this method there is a possibility of collusion between the broker and the agent. These *dalals* are more in touch with the merchants and *arhatias* of the *mandi* and therefore there is every possibility that the interests of the seller may be sacrificed. Auctions on the whole are better than the cover system and are adopted in some *mandis*. The Royal Commission on agriculture recommended that the *dalals* and brokers should be prohibited for acting in a dual capacity that is both for buyers and sellers as it happens in some *mandis*.

(5) **Mandi constitution:**—As has been related above these big *mandis* are all managed by the dealers that is *arhatias*. The sellers that is cultivators and *beoparis* have no voice in the management. This is why the interests of the seller do not receive due attention in these *mandis*.

All these are hardly in consonance with good marketing. In every province it is desirable to establish regulated markets on the Berar model, which can only cope with the various defects and drawbacks of present methods of marketing. Separate markets for different crops are not suitable in India what are wanted are regulated general markets. If by an act such regulated markets are established the complaints of the sellers regarding incorrect weighment, taking away a certain quantity of produce in sample, disputes as regards the quality of the produce after the prices are settled and unjust *arhat* charges would not be possible.

There should be a market committee which would consist of representatives of landlords, cultivators *beoparis*, dealers in the market, and officers of agriculture and co-operative departments. *Dalals* should not be allowed to become members of the market committee. The committee would arrange for the sale of agricultural produce by open bidding with due regard to quality and purity and frame rules for controlling *dalals*, publish market practices, deal with cases of fraudulent weighment, unauthorised deductions or any other deception and thus ensure the cultivator the benefits of better prices and correct weights.

(6) **Grading of Produce:**—In Indian markets there is no attempt to grade the produce. In busy season when the market is congested with produce both *arhatias* and other buyers do not differentiate one kind of grain from

the other and in fact here is a tendency among buyers to pay a flat rate for good and bad quality alike. This absence of grading has affected unfavourably the reputation of Indian produce in foreign markets. Therefore proper efforts must be made to grade the produce in these markets.

(7) **Storage facilities** :—But any improvement in marketing methods must await development in storage facilities. At present there are no storage facilities in *mandis*. The Royal Commission on Agriculture recommended that the initial expenditure on land warehouses incurred in starting regulated markets should be met from a loan from Provincial revenues. It is not only in the big *mandis* and railway junctions that the warehouses are needed but they are needed in the country-side as well where the co-operative marketing societies may store the produce for their members. At present the cultivator has little to store; the *khattis* and *kothas* are used for storing and this is very defective.

Handicap of the Cultivator :—The above description of the methods of agriculture marketing bring out the outstanding defects of marketing agricultural produce in India and suggestions have been made for removing the same by developing means of communication and establishment of regulated markets. But the Indian cultivator labours under such serious handicaps that even after development of the roads and establishment of regulated markets he may not secure a reasonable price for his produce.

Firstly he has no waiting capacity and is forced to sell his produce just after the harvest is over and the market is already glutted. Usually the price at that time is lower. Could the cultivator wait for some months he could get

a higher price. But he has to pay Takkavi, rent, irrigation charges, interest and capital to the mahajan and a host of other creditors. In most cases the cultivator is a bond slave of the mahajan and is forced to sell without delay mostly to the mahajan himself. Secondly he has a small quantity to sell and hence cannot fetch a good price. He has no proper storage facilities to store his produce. He is ignorant and illiterate and therefore he falls an easy prey to the intermediaries and mandi dealers. He is ignorant of the art of selling and is mostly uninformed of the prevailing prices in the big mandis and foreign markets. Therefore it is difficult for him to sell his produce at the best possible advantage. In brief the cultivator by the very nature of his being isolated, lack of education, ignorance of the art of selling, lack of capacity to understand the tendency of the markets is ill-fitted to sell at the best advantage. Therefore even the development of good roads and establishment of regulated markets will not remove all the difficulties. They will remedy some evils but will not prevent all. Something more is necessary than mere regulation is necessary for the improvement of marketing organisation.

The co-operative marketing societies will do a lot in this respect. By co-operative marketing all the handicaps of the cultivator will be removed. The co-operative marketing society by giving an advance to the member provides the waiting capacity, by pooling the small quantities of produce of their members they sell a large quantity and thus secure better price. They can also provide storage facilities. By affiliating themselves into sales union they will get the expert advice and information as regards the opportune moment of selling. In some countries in Europe laws have been passed compelling the cultivator to sell through the co-operative marketing

societies only. Experience alone can show whether a similar legislation will be necessary in India (See co-operative marketing societies in the chapter on co-operation).

Recent improvements in Agricultural marketing :—The Royal Commission on Agriculture in India had recommended the establishment of regulated markets on the model of Berar and Central Provinces regulated markets and the conducting of marketing surveys and appointment of marketing officers under the Agricultural Departments, but owing to financial difficulties the Provincial Governments were not able to give effect to these recommendations. Later on the Central Banking Enquiry Committee also endorsed the recommendations of the Agriculture Commission as regards marketing surveys. In view of the importance of agricultural marketing as an aid to economic prosperity of the peasant the Government of India decided to give effect to the recommendations of the Commission. It was decided that a highly qualified and experienced marketing expert with practical knowledge of marketing should be appointed for a limited period, that such an officer with his necessary assistants should be attached to the Imperial Council of Agricultural Research to investigate marketing problems, formulate schemes and make recommendations regarding standard grades for various commodities and advise both Provincial and Central Governments on matters relating to agricultural marketing. In 1934 the Provincial Economic Conference recommended that there must be close collaboration between Provinces and the native States in Economic matters. Accordingly the Central Government, Provincial Governments and some of the Native States appointed Marketing Staff. At the centre there is an Agricultural Marketing Adviser

to the Government of India assisted by several marketing officers and Assistant Marketing Officers. The Provincial Governments have also appointed a Senior Marketing Officer assisted by junior marketing officers. Native States have also appointed Marketing Officers. Besides these Marketing Officers cotton, coffee, jute, lac and sugar all-India Committees have their marketing staffs working in close association with the Central and Provincial Staff.

✓ The chief work of this marketing organisation so far has been the conducting of marketing surveys, touching the problems of production, distribution, wholesales, manufacture, transportation, storage preservation, prices, and quality of products. ✓ Marketing surveys for practically all the important crops have been held and a few reports have been published. Besides marketing surveys attention has been paid to the standardisation of the commodities. Market samples were collected and analysed for their physical and chemical properties.

As a result of these surveys the Agricultural Produce Grading and Marketing Act was passed in 1937, for fixing grade designation, specifying grade designation marks, and defining standards of quality. Under the Act Agricultural Marketing Adviser has been empowered to issue certificates of authorisation to such persons as are ready to grade and mark their produce. Since then centres of grading and marking of certain commodities have been set up at several important producing centres. Grading stations for eggs, cotton, Vanāspati, edible oils, hides, atta, fruits, ghee, gram, and rice, have been set up. Besides these tobacco and mangoes are graded for export purposes.

Some progress has also been made in fixing uniform contract terms concerning wheat, linseed, and groundnuts

etc., in co-operation with trading interests all over the country. Besides this cultivators are being familiarised with the modern methods of marketing by demonstrations, agricultural shows and exhibitions by the marketing staff. Moreover with regard to market information and news broadcasts from Delhi Radio Stations are made regarding prices, stocks and movements of different commodities. Similar steps are being taken by the Provincial Marketing organisations to provide marketing news agency. During war control on chief commodities has been established and prices have been fixed. Besides these activities for the regulation of markets and market charges legislations have been made or are under consideration in most of the Provinces and some of the Native States.

In fact the development of agricultural marketing is essential to secure for the cultivator better prices and profits. To ensure this means of communications and transportation have to be developed so that the villages may be joined to the bigger *mandis* and isolation may be broken to some extent. Weights and measures must be standardised. To free the cultivator from the thralldom of the money-lender and the *beopari* co-operative marketing and credit societies should be established. Laws should be passed to establish regulated markets on the lines suggested by the Agricultural Commission. Grading and standardisation of the produce must be resorted to and finally the storage facilities must be provided at the big *mandis*, railway junctions and even the villages. It is only by providing these facilities that the cultivator can be enabled to secure a good price for his produce and unnecessary intermediaries can be eliminated.

CHAPTER X.

AGRICULTURE: SUBSIDIARY OCCUPATIONS.

A Secondary or Subsidiary occupation is intended to supplement the income of a person engaged in some main occupation. The object of a Secondary or Subsidiary occupation for agriculturists is to supplement and not to supplant the main occupation. It may be some suitable kind of rural industry but need not necessarily be one. For instance cart-driving affords a profitable subsidiary occupation to many agriculturists in off-season.

Need of subsidiary occupations:—Agriculture is a seasonal and interminant industry. In certain months there is no work on the land, in others there is little work while in others the cultivator is overbusy from early day break till very late in the night. Thus the cultivator is not fully employed on his land and he remains idle for a certain period of time. Moreover agriculture is also an uncertain industry as it depends mostly on nature for its success. The crops are liable to fail often. Thus agriculture is an industry which has certain inherent weaknesses. In these days of keen competition nobody should hope to get twelve months living by working for less than 12 months and cultivators must be no exception to this rule. Moreover agriculture being an uncertain industry is liable to fail and therefore the cultivator must have some subsidiary occupation to fall back upon in case his main occupation fails. This is the reason why in every country the agriculturist along with this main occupation carries on a subsidiary industry in other words he has a second string to his bow.

In India the need of the subsidiary occupations is even greater. Continuous increase of population has caused overcrowding in agriculture. Besides this the disappearance of the cottage industries which at one time occupied a considerable portion of the people who had to fall back upon agriculture for their livelihood. Both these causes have brought about a heavy pressure of population on land. The situation has been aggravated by the fact that the average holding per cultivator is less than 3 acres including current fallows and even this small holding is fragmented. Thus the average cultivators holding is not enough to maintain him and his family. No doubt there is nearly 30 p.c. of untilled land in the country that can be brought under the plough but it is largely a question of capital and enterprise both of which are lacking. Finally the enforced idleness in the case of all agriculturists due to the seasonal nature of their main industry is also responsible for their insufficient income. Thus most of the cultivators in India have a deficient budget meaning thereby that the agriculture income falls short of the necessary expenses of maintenance in normal years. If perchance the main industry of agriculture fails which is very frequent he has no alternative but to starve or incur a debt from the money-lender. There is another defect of the agriculture industry that is it provides income to the cultivator only after a long period of waiting and not in a continuous stream of dribblets as in other occupations and therefore the cultivator needs some subsidiary occupation which may put some cash in his pocket to meet daily expenses.

In this connection it will be interesting to know the view of the Royal Agriculture Commission. The Commission points out that as a general rule an agriculturist cannot be expected to be anything more than an unskilled

labourer in any other industry other than his own industry. If therefore a marked reduction of pressure on the land is required it must be definite diversion of the surplus labour of the country to industrial centres.

How far such diversion has been achieved up to now is shown by the fact that factories, mines, plantations, workshops and dockyards in India do not give employment to more than 1 p.c. of India's total population. If during 80 years of development of large scale modern industries they could give employment only to such an insignificant population how one can expect that these large scale industries will give employment to a large army of landless labourers (estimated at 10 crores) during a reasonable period of time.

The Agriculture Commission has also acknowledged the fact that the prominent feature of Indian agriculture is the amount of sparetime which it leaves to the cultivator, the greater number of them having at least from two to four months absolute leisure at their disposal, and the rural industries at present are unimportant from the point of view of their demand on labour. In fact in drier parts of India where irrigation facilities are not available the cultivator remains idle for 6 to 8 months in the year as he raises only one crop in the year. Different writers have calculated that on the average the cultivator is idle for 4 to 8 months in the year in different parts of India.

There can be three types of industries capable of occupying the rural population. (1) Industries of factory types located in rural areas. (2) Village and domestic industries. (3) Sale by the Cultivator of his labour when there is little or no work to be done on his holding.

Under factory industries the following are included, by the Commission. (1) Cotton-Ginneries, Rice Mills,

Sugar refineries, oil-crushing factories, brick kilns, and road making are those industries which if developed can supply one solution of the problem of spare time employment. (2) Manufacture of agricultural implements throughout the country offers considerable promise and the Commission recommended Government to encourage this enterprise. (3) Manufacture of oil-cake and bone-crushing industries. (4) Preservation of fruits by drying, canning and making into jams. But the development of the seasonal industries in rural areas will only be possible when the state develops the rural transportation and gives other facilities to the industrialists. As far as fruit industries are concerned even the Agriculture Commission recognised that the local demand for the products is small and foreign competition is keen. If such seasonal industries and other factory types of industries could be established in rural areas as a result of decentralisation policy not only employment will be provided to rural population but rural areas will be in a position to keep back young, educated, ambitious men of means in the villages who are at present deserting the villages for urban centres and making villages bankrupt of intellect, capital and enterprise. But under the present circumstances one cannot hope that this dream can be materialised.

The second type that is village and domestic industries are important from the cultivators' point of view. But these industries in order to provide subsidiary occupation for the cultivators must satisfy the following conditions. (1) It must be capable of being laid aside without loss during the agricultural season, or be capable of being carried on along with the main occupation without detriment to the latter. (2) It must not demand difficult technical knowledge or much skill to manipulate. (3) If it involves the use of raw materials they must be within the easy reach

of the village with much cost. (4) The products of the industry must find a ready market. (5) It must not demand much capital investment.

It is difficult to suggest a single occupation such as will give employment to all the villagers. Nor one occupation which might suit one group of villages or people be found to suit all the villages or all the people. Moreover the value of any occupation must be judged by the standard, how far it will help the village economy in general.

The village industries can come under one or more of the following categories:—

- (1) Those which produce additional food, either for men or cattle or both.
- (2) Those which produce clothing, or other household necessities of the villages.
- (3) Other industries and occupations.

Occupations helping production of food:—Of all the secondary occupations those which increase the existing supply of food are most important. For if agricultural crops fail the secondary source of food will be available. Secondly there is a greater demand for food materials than any other commodity and if the articles produced are consumed by the farmers or in the neighbourhood the difficulties of marketing would be minimised. In western countries though agriculture itself occupies the farmer for a greater part of the year than in our country he carries on a few subsidiary occupations that of dairy farm, pig farm, a poultry farm and a fruit farm in order to make himself self-contained in the matter of food. None of these interfere with agriculture but help it in many ways. They are looked after by children and women of the family. He gets nourishing food and the surplus is sold in the market.

Dairying :—Dairying is a very important industry and has great chances of success in India and therefore it deserves all encouragement. In India cattle are not only intended for dairy produce as in the west but for supplying agricultural power. All the agricultural processes in India are carried on by the help of bullock power. Therefore cattle industry is of utmost importance to India. Here we are only concerned with the dairying industry.

According to "cattle and dairy industries report" the total annual gross production of milk in India is nearly 800 million maunds. Compared with other countries India stands second in volume of milk production, her output being exceeded only by U.S.A. But per man production of milk in India is shockingly low, that is 8 oz. daily and consumption is 7 oz. daily per head of population. Thus per head production in India is the lowest in the world. On the average in western industrial countries per head daily milk production is nearly 35 oz. and that of agricultural and newly found countries it is still greater. New Zealand produces 244 ozs. per head daily and Denmark produces 148 oz. daily per head of population. This is why an expert on diet and nutrition has said "The most important task confronting the social reformer who seeks to make India's food supply satisfy decent standards of nutrition is to increase milk production in India to at least double and preferably by three times.

While the argument for increasing milk consumption has so far been based on the requirements of first-class protein the value of milk as a protective food must not be lost sight of. With vegetarian diet derived from a very limited variety of foodstuffs there is a serious risk of deficiency of both minerals and vitamins. An increase in the consumption of milk would go far towards correcting the existing deficiency of both minerals and vitamins;

But only by increasing milk production the object will not be achieved unless the price of the milk could be reduced.

In planning the development of dairy industry it is essential to ensure that it caters for the existing taste and dietary habits of the population. Marketing surveys show that nearly 52 per cent. of the total milk output is utilised in manufacturing ghee, 32 p.c. is consumed as liquid milk and the rest as Khoa, Dahi etc. Western products such as creamery butter and cheese are scarcely used except by Europeans and a small number of Indians who have acquired a taste for them. These figures clearly show that the items of major importance in Indian dairying are liquid milk, ghee, and other indigenous milk products.

The reason why indigenous milk products have assumed such a great importance in Indian dairy industry is largely due to the fundamental difficulties involved in handling milk under tropical conditions and to the special problems associated with the lack of adequate communications and transport facilities. The fact that 90 per cent. of the population live in rural areas makes it impossible to adopt large scale factory system of dairying in India. This is why Norman C. Wright in his report on the development of the cattle and dairy industry in India emphasises that attention should be concentrated on the production of indigenous milk products and not on products of western origin, second, steps should be taken to ensure that an adequate supply of milk and milk products is available for consumption by the rural population, third, any attempt to introduce improved methods should be effected by evolutionary rather than revolutionary changes of technique, fourth, the combination of producers on a village industry basis (as distinct from a factory basis) should prove the most effective form of dairy organisation in India

and fifth, any improvements in production should be supplemented by provision of improved marketing facilities.

The existing condition of dairy industry in India is most deplorable. The yields of village cattle average only 600 lbs. per year. In India most of the cattle have deteriorated to such an extent that in most of the provinces it has ceased to be a milking animal and an interloper had to be requisitioned in the form of buffalo for purposes of milk. It is too much to expect the average farmer to keep buffaloes for milking and bullocks for agricultural purposes. He therefore prefers to do without milk. Those who are better off keep both but buffaloes are better fed and cows are made to starve. The presence of buffalo has made our cattle problem more difficult. It is argued that cows milk yields much less fat than buffaloes milk. This is true under the present degenerated condition of the cow, but with better food and improvement in breed the cows can be made to yield as much fat as that of a buffalo. In European countries there are no buffaloes and the cows give a large quantity of butter. There is no reason why we should not be able to do likewise. By improving the breed of the cattle we can make the cow serve the dual purpose of yielding milk and providing draught animals. Therefore the first essential requirement of the dairy industry is the improvement of cattle breed, second, improvement of fodder supply and management of cattle, third, fighting animal diseases (these problems have been discussed in the Chapter on Agriculture).

It is not only by improving the breed of the cattle and managing it well that all will be well. The dairy industry is facing certain acute problems which have to be solved. Firstly the adulteration of ghee and milk in India is universal. In fact it is difficult to get unadulterated milk or ghee at present in this country. The adulteration

of ghee with Banaspati Ghee will give a death-blow to the ghee industry if it is not checked in proper time by passing legislation to colour the Banaspati. The decline of ghee industry will bring financial ruin to the cultivator in India and therefore it is a great national need to protect the ghee industry from ruin. Secondly the marketing of ghee and milk is very defective. Not only that marketing of milk and ghee is unscientific, uneconomical and wasteful; it secures a very low price for the cultivator. There are a large number of middlemen between the cultivator who keeps milking animals and the final consumer. In many cases the dealers in milk and halwais in the urban centres and ghee sellers give an advance loan to the cultivators and thus secure the milk or ghee of the cultivator at a very low price. The fact that there are a large number of intermediaries between the cultivator, *i.e.*, the milk and ghee producer and the final consumer raises the price for the consumers and there are greater chances of adulteration. Therefore marketing of milk and ghee should be organised on scientific lines. Co-operative marketing of milk and ghee should be organised and ghee grading stations should be established for certifying and testing ghee in all ghee markets. It is only in Bengal, Madras and United Provinces that a few co-operative milk societies have been established and ghee societies have been developed mainly in U.P. But much has to be done in this direction to improve the industry.

India possesses the largest number of cattle of any country in the world. Out of world's cattle population of about 690 million animals 215 million are located in India. Owing to adverse economic conditions the productive value of the cattle industry is not commensurate with its size. Nevertheless the actual and potential value of cattle products is very great.

According to Mr. Norman C. Wright the value of milk and milk products is about 300 crores of rupees, hides Rs. 40 crores, cattle labour to Indian agriculture between 300 to 500 crores of rupees, manure 270 crores of rupees. So that roughly the prices of cattle products is near about 1,000 crores of rupees. Mr. F. Ware, Director of Veterinary Research Institute, Mukteshwar estimated it in 1939 at 1,265 crores of rupees. One significant fact which emerges from this statistical analysis is that the value of India's cattle products slightly greater than that of her cash crops and nearly 50 to 60 per cent. of her total agricultural crops. (The value of agricultural crops is estimated at Rs. 2,000 crores in India.) From this point of view the cattle industry is second only to agriculture and this point should be borne in mind in any economic planning for the country in future.

From this point of view improvement of cow is of great national importance. But this problem is a gigantic one, the Governments alone can not solve the problem single handed. Therefore the help of all those persons and institutions must be sought who are associated with rural life. Every big Zamindar must be asked to supply one good bull to his village. The Co-operative Societies, Rural Development Associations, District Boards, and Gaushalas and Pinjrapoles must also be asked to co-operate in this task of cattle improvement. In fact every Gaushala must be turned into a cattle improvement centre for the locality. The Gau Seva Sangh under the guidance of Mahatma Gandhi has started making effort to solve the problem on scientific lines. The Sangh rightly lays more emphasis on encouraging the consumption of cow's milk, cow's ghee and other dairy products made of cow's milk.

One fact as regards dairy industry should not be lost sight of that is by developing dairy industry we will

not only put some money in the pocket of the cultivator but he will also get milk to consume which he does not get at present and thereby he will improve his diet to a considerable extent. (As regard cattle improvement see chapter on agriculture).

Poultry Farming: Next to dairying poultry-farming deserves attention. The industry is not new to India and is still carried on in many parts though in an organised manner. Though Hindus do not keep poultry but Muslims and Christians can very well take to it. Indian poultry has also degenerated to a great extent. But Indian poultry can be improved by crossing it with superior breeds, by better feed and proper housing. Poultry farming is eminently suited to famine areas. Even waste land can be used for poultry yards and the work can be left to children and women of the house. If the breed of poultry is improved by crossing with superior breeds and feeding and housing is well managed a family can produce enough eggs for their consumption and sell the surplus in the market thereby adding Rs. 50 to Rs. 100 per year. Poultry is quicker in yield and less costly in maintenance. It also yields very rich manure which is very valuable for fruit trees. In America the value of poultry product is greater than the total wheat crop. In Denmark as well poultry plays a very important part in the economic life of the cultivator. In China as well the cultivator depends to a very great extent on the income of his poultry farm. Large quantities of eggs are exported to foreign countries. Those villages which cannot export fresh eggs due to the difficulty of transportation and storage dry them into powder and export. If industry is developed in India the cultivator will get eggs to eat and a certain cash income. During recent years the Provincial Governments have helped the industry by opening poultry farms and carrying on demonstration and propaganda.

Apiculture :—Bee-farming is another important rural industry which is carried on by the cultivators in other countries. Though in India the farmer knows little about it. This industry can be carried on with little labour, space and capital and it is very easy to learn. A single stock of bees can fetch Rs. 50 every year to a cultivator. In U.S.A. Bee-farming is practised on an extensive scale and the total value of honey thus produced is over 10 million dollars. In Germany the industry is carried on even more systematically and the output is exceedingly large. In India the industry is carried on by jungle tribes and semi-jungle tribes in a very wasteful manner. They exploit honey from combs prepared by jungle bee in forest and destroy the comb itself which takes a long period of time to be prepared by the bee. In apiculture the bee has to be domesticated in bee-hives and without destroying the comb honey is taken out from it and again the bee fills the comb with honey every fortnight or so. Thus it is turned into a honey making machine. Simple implements, and knowledge of bee-farming is essential for carrying on this industry. But it is very simple to learn and the family children and women can look after it very well. But the industry requires abundant bee forage. If forests or flowers are not closed by barren and waste land could be utilised for planting trees having bee-forage. Fruit trees afford very good forage to bees. Bees help the fertilisation of fruit increasing thereby its quality and quantity. In other countries poultry keeping, bee farming and fruit farming are carried on hand in hand. The poultry farm supplies valuable manure for fruit trees, fruit trees supply forage to bees, and the bees increase the yield of fruit many times. Therefore this industry needs to be introduced in Indian villages as well. If enough good honey at reasonable price is available its consumption can be in-

increased in the country as honey is universally used in Unani and Ayurvedic systems of medicine and on religious occasions. Moreover if honey is available at a reasonable price there is bound to be a great demand of honey in India for ordinary consumption purposes. The country abounds in the supply of "pollen and nectar yielding trees" and has four kinds of bees. The rock-bee, the ordinary Indian-bee, the little bee, and the mosquito bee. Bee-keeping on scientific lines has been introduced in Travancore, Mysore, Coorg, Andhra, and Orissa. Students are being trained in the art of bee-keeping and the industry is doing well. In U.P. Government has started the Jeolokote Apiary (Naini Tal) to train the students in the art of bee-keeping and honey extracting. If properly developed the industry is bound to do enormous good to the people.

Fruit farming:—Fruit farming is another industry which can be suggested as a subsidiary occupation for the cultivators. It is very nourishing food and this is why fruit form an important part of diet both in Europe and America. In those countries fruit farming is extensively carried on both as a main and subsidiary industry. In India the need of fruit is still greater because it is a vegetarian country and climate is suitable for fruit growing. But fruit farming has not developed in India as yet to a considerable extent. By developing fruit growing the waste land can be brought under cultivation because the fruit plant can grow even in those soils which otherwise are not very good for crops. With extensive cultivation of fruit trees large quantities of leaves will be secured for manure purposes and the fuel supply will increase and thus will reduce the consumption of cattle dung for burning purposes. Cultivation of certain varieties of fruits depends upon a good supply of water and marketing facilities yet there are some varieties which are not dependent on rains and therefore

are fitted for famine areas. If fruit farming develops in India in due course of time side-industries such as canning, curing, or drying of fruits, fruit preservation, manufacture of jams, juices, and powders etc., can develop. But these are very remote possibilities. Fruit growing will also put some additional money in the pocket of the cultivator and provide him with more nourishing element in his diet.

Vegetable growing:—Market gardening of vegetables is dependent upon ample supply of water, manure and market facilities. Therefore this can only be carried on near urban centres where sufficient water is available. If quick means of transportation develop this industry can also be introduced in distant villages. Apart from this every villager should be induced to grow vegetables not so much for marketing unless there are special facilities, as for consumption in his own home. The small quantity of vegetables required for his home consumption can easily be grown by him in a small plot attached to his house. The kitchen and bath water can be utilised in this plot. Thus it will keep the house clean.

The above mentioned industries whereby more food can be produced are very important firstly because population is growing and land is limited therefore all sources of food supply must be tapped to the fullest extent. Secondly by developing these industries the Indian farmer will get more food and good food to eat. Thirdly these industries can very well be managed by grown-up children and women of the family. Fourthly they have not to face factory competition. Fifthly there is a great demand of food articles in all the important industrial countries of the world and therefore if any surplus remains after home consumption it will find an easy market in foreign countries. The secondary occupations mentioned above

if well developed and are provided with marketing facilities will put some money in the pocket of the cultivator and make him less dependent on the money-lender.

OCCUPATIONS HELPING THE PRODUCTION OF CLOTHING.

Hand Spinning:—Hand-loom weaving requires greater skill and has to face the competition of factories and therefore cannot be introduced as a secondary occupation but hand spinning can very well be introduced as a secondary occupation for the farmer. It requires very little skill and technical knowledge and the initial capital out-lay is very little. And spare-time can be utilised for spinning. Even if the adult males migrate to neighbouring towns for a temporary period in search of more remunerative employment women and children can carry on the spinning. It is often said against charkha that it yields little income; a few annas a day. But is not something better than nothing. Even agriculture yields to the average cultivator only a few annas a day. Another objection is that yarn produced does not find a ready market. But this difficulty can be removed by producing yarn in each village just sufficient for its own requirements. Thus if the scope of hand spinning is limited to the production of yarn just sufficient for the requirements of the village people the difficulty of finding a market will not arise. Along with spinning, ginning and carding can also be carried on easily in each family. The weaving of this yarn should be entrusted to *julahas* or *koris* of the village who get full-time employment and the village families can get enough cloth for themselves. If this is done no special efforts will have to be made to induce the villager to wear khadi as is being done by the All-India Spinners Association under the guidance of Mahatma Gandhi. The Charkha Sang or Spinners Association has given employment to

more than 6 lakh workers by popularising khadi in India. If an improved charkha is introduced in the villages and takli is popularised among villagers the village population can have enough of cloth to cover their bodies. One or two families of weavers will weave all the cloth needed by the cultivators. From this point of view charkha should not be ignored.

Sericulture:—This is also an industry which can give occupation to the cultivators to a certain extent in most parts of India. There is a common belief that this industry can be carried only in cool climates. This will be the case if two or more crops are to be produced in the year. But if only one crop is produced and tree-planting and not bush-planting of mulberry is resorted to the industry can be introduced in many parts of India. Trees can be grown on any kind of soil, waste land, road sides and borders of fields and a single crop can be attended by farmer's wife with the help of a grown-up child.

Sheep and Goat farming:—Sheep and goat farming is prevalent in many parts in India. It is a mixed type of industry producing both milk and wool. The goat is said to be poor man's cow. Sheep supplies wool. But the breed of sheep has degenerated to such an extent that it produces only inferior and coarse wool. The industry can be carried on both as a main industry by professional shepherds and the cultivators as secondary occupation in those areas where the geographical conditions are suitable.

Other industries:—There are some other rural industries which can be introduced as subsidiary occupations in the villages for instance rope making, basket weaving, and mat making etc., and Gur making and oil pressing and hand pounding of rice. Tanning of leather

can also be introduced as a secondary industry for certain castes only. To some extent these industries are carried on at present in India but they are carried on in a wasteful manner, the implements used are very primitive and inefficient. They need improvement and then only the industries can be successfully introduced. The All-India Village Industries Association under the guidance of Mahatma Gandhi is on the one hand trying to develop all these village industries including paper manufacturing and on the other hand to popularise the consumption of their product by carrying on intensive propaganda in their favour.

But these industries can only be of advantage to the cultivator when they are properly organised. At present they are in the hands of the middlemen which reduces the utility of the industries for the cultivators. By organising these industries on co-operative lines they can be made more profitable for the farmers.

Sale of labour :—Besides these industries the agriculturists can also employ their idle period by sale of their labour in the neighbouring towns and cities, brick kilns, seasonal industries, cart driving, road making etc. But the chances that the cultivator may avail of these occupations and depend increasingly upon them are not very promising at present. Firstly the agriculture industry is such that the cultivator though remains idle for a comparatively long period of time cannot leave his village and desert the land for a long period. Land requires his attendance. The nature of the industry is such that he is never free for a long period at a stretch though the aggregate period of idleness may be sufficiently long. Therefore the cultivator needs employment in his village itself to that he may attend to his land whenever the need arises. Secondly on account of lack of means of communications

and transportation in rural areas the seasonal industries are also stationed in urban centres. If in future the seasonal factories and also perennial factories are started in rural areas they can provide employment to the agriculturists in their off time. However even at present the agriculturists migrate during their idle period to seasonal factories, coal-mines, building works, road making and brick kilns. Cart-driving also gives employment to the cultivator and his cattle to some extent. With the development of motor-bus traffic this occupation will become less important.

There is the need of planning. Seasonal and those perennial factories should be established in rural areas which handle the agricultural produce. But this will need state initiative and development of transportation and communication. Domestic and rural industries must be organised, improved, and cheap and light tools, implements and machinery must be invented and popularised. If cheap hydro-electricity can be supplied to rural areas it will do much good to the cultivator, and finally temporary migration of labourers from rural areas must be encouraged and regularised by adjusting the time of road making, building works etc., with the slack season in agriculture. Considering the present conditions greatest reliance will have to be put on the rural and domestic industries for supplying subsidiary occupations to the agriculturists.

CHAPTER XI.

LAND REVENUE.

The conditions on which the land is held and cultivated by the peasants have a profound effect on the economic welfare of the cultivators, the method of agriculture, the management of land and ultimately the prosperity of the whole rural population. To take the case of Indian cultivators unless the existing land system is changed in such a way that the cultivator can fully enjoy the fruits of his labour his standard of living cannot go up nor scientific cultivation can be adopted by him. If the economic condition of Indian peasants is to be improved revolutionary changes in the existing Land Tenure System are called for. Before we enter into details discussions of problems concerning Land Tenures and Tenancy Legislation it is necessary to study as to who is the ultimate owner of land in India.

Ownership of land in India:—There has long been a controversy as to who is the ultimate owner of land in India. The Taxation Enquiry Committee devoted considerable attention to this matter, and they studied this problem from historical point of view. According to "Manu" the famous law giver of Hindus, the State was not the owner of land but it could claim one-sixth of produce of the land as its share. The greatest authority on Land Revenue System in India Colonel Baden Powell and eminent writers such as Elphinston and Professor H. H. Wilson are also definite that State never claimed the absolute or exclusive ownership of land and recognised the existence of private property in it.

The Mohammedan Law that was prevalent during Mohammedan rule in India was that of the School of

Hanifa and one of the greatest authorities on the subject of land tenures under that law was Colonel Galloway who summarised his conclusions as follows:—"The soil was the property of the cultivator as much as it could be. Law gave no power, policy gave no motive to remove him or to disturb him so long he paid his taxes. When he did not, his land could be attached. The right of the Indian husbandman is the right of possession and of transfer and the rate of his land tax was fixed."

The Taxation Enquiry Committee was unanimously of opinion that under both Hindu and Mohammedan rule the State never claimed to be the absolute or exclusive ownership of the land and definitely recognised the right of private property in it.

One contrast was noticeable between the Hindu and the Mohammedan Periods. Hindu rulers collected the actual produce of the land, but the Mohammedan rulers collected the revenue in cash which was regarded a more convenient and economical system. Once it has been decided that the Hindu and Mohammedan rulers of India never claimed the right of universal landlords it is easy to decide what right the British have on the land in this country. When the predecessors did not claim, and did not possess proprietary rights what claim have British to such a right on land in India?

Some people advance the theory that after the death of Aurangzeb the Moghul Empire shattered to pieces and as the authority of the Emperors declined some provincial Governors and adventurers—petty Rajas and Nawabs made a definite claim to the ownership of land to justify their exorbitant demands. In this chaotic period the rulers in the various provinces imposed additional levies which very often made the possession of land a burden

rather than a privilege. There is no doubt that in certain cases the evidence of state ownership did appear but it was a passing phase and was to be found only in very restricted areas. There is considerable historical evidence to show that no such right on the part of the ruler was definitely recognised even in those disturbed periods, and the ryot did not allow the rulers to establish the right of ownership on their lands.

Whatever may be; the claim of the British Government in India has to be examined anew, because a succeeding state is not necessarily bound to respect the old laws of its predecessors. The question is whether the British have claimed absolute ownership of land in India. The official view seems to be that they have put forward such a claim. But Baden Powell the greatest expert on Indian land revenue system holds a different opinion. He has definitely laid down that the British Government have everywhere conferred or recognised a private right in land and in large areas of the country they have expressly declared the proprietary right of the landlords and the village owners. Of course on the waste lands, and the Khas mahal estates outside the permanently settled areas they have full proprietorship.

The Taxation Enquiry Committee were unanimously of opinion that in the case of lands under permanent settlement, the Government have now no proprietary right and that as regards Khas mahal estates and waste lands outside the permanent settled areas, they have full proprietorship. On the question of their rights in relation to *ryotwari* and other temporarily settled tracts the committee were divided in opinion. One view was that the position of a ryot in a temporarily settled tract is not fundamentally different from that of the zamindar so long as he pays the annual land revenue, since there is no restriction on the

right of the ryot to sell or mortgage land. He is under exactly the same obligations to the Government as the zamindar, whose estate is also liable to be sold for arrears. On the other hand it is pointed out that in *Ryotwari* Lands the land can be relinquished at the option of the holder. Some try to prove on this basis that the ownership is really vested in the State to whom the land reverts when the holder gives it up. The position is no doubt anomalous, but the reason why the holder was allowed the option to relinquish, was because the holder was afraid to have irrevocable commitments, and not any desire on the part of the State that land belongs to it in exclusive proprietary right. The Taxation Enquiry Committee were not of one mind as to the possibility of arriving at an exact and general definition of the position of landholder in a temporary settled area, they were agreed that in generality of cases the zamindars and ryots are respectively the possessors of the proprietary right subject to the payment of land revenue.

In spite of the fact that all those who are competent to speak on this matter hold the abovementioned view the Government in India claims to be the owner of all land in India. Accordingly in the zamindari tenures the Government is declared as the supreme landlord and ultimate owner, the landlord as the owner and middleman, and the tenant as the actual tiller and possessor of the land with sometimes rights to retain the possession. In *ryotwari* tenure there are only two parties interested in the land, Government as the land owner and the cultivator. Thus the Indian doctrine of land ownership is that of co-partnership in which all the three parties Government, zamindar and tenant are interested.

Is land revenue a tax or rent :—The share of the landlord in the produce is called 'rent' and the share of

the State is called 'revenue' and the enjoyment of the possession of the land by the tenant depends upon his ability to pay regularly the rent of the zamindar and the ownership of the landlord depends upon the payment of his land revenue.

Now the question is whether land revenue which Government receives from the landlords in the zamindari tenure and from the ryot in the *ryotwari* tenure is 'rent' or tax? As there is a great deal of controversy as to the ownership of land in India so there is equally a great controversy whether land revenue is rent or tax? The answer to this question depends upon the previous controversy as to the ownership of land.

If the opinion of the Taxation Enquiry Committee is accepted which is supported by all competent authorities that there is private property in the land then the land revenue is a tax because State can raise revenue only by levying a tax on the subjects. But Government and its spokesmen insist on calling it rent because it suits their purpose.

There are, however, certain arguments which require separate treatment. The upholders of tax theory on land revenue maintain that land revenue is a tax because State never claimed universal ownership, that it has conferred proprietary rights in permanent settled areas, and that imposes no restriction on sale and mortgage in the case of *ryotwari* land, there are many functions of a landlord which the State does not perform and that the process of assessment and collection is akin to tax collection, because there is no difference between the two. They also assert that since the Income-tax Act of 1886 exempted agricultural incomes from income-tax it proves that land revenue is a tax. On the other hand those who are the advocates of

the rent theory of land revenue assert that it is rent because it differs from a tax and resembles rent in the fact that it can not be altered to suit the requirements of the State. It is fixed for very long periods and cannot be changed during those periods according to the needs of the State. They also argue that land revenue is not a tax because it has been amortised in the purchase price when lands have changed hands and it no longer operates as a tax on present holders.

Really speaking there is flaw in all these arguments which are advanced for or against the theory that land revenue is rent or tax. With regard to the argument of the supporters of the rent theory that land revenue cannot be changed according to the needs of the state, it must be said that if state like it can revise the land revenue every year, there is nothing inherently wrong if the state decides to do it. The state does not do so because it will mean huge expenditure and at the same time it will be very inconvenient. With regard to the question of the amortisation of land revenue which is put forward by the supporters of the rent theory we can only say that it has nothing to do with the question whether a particular charge is tax or rent. As for the arguments on the other side that the method of revenue collection is akin to tax collection is not a very valid argument and also the other argument that agriculture incomes are exempted from income-tax is a positive proof that land revenue is a tax is also unsound. In fact the recent imposition of income tax on agriculture incomes in some provinces clearly proves the absurdity of this argument.

The Taxation Enquiry Committee were also divided on this point as to whether or not the land revenue should be regarded as tax on the individual who pays it, they are agreed that since, it forms a deduction from the national dividend it should be taken into consideration in

dealing with the question of the incidence of taxation on the country as a whole. Thus indirectly the Taxation Enquiry Committee accepted that it is a tax as far as the country is concerned. As a matter of fact it is an impost which falls on the cultivators and the zamindars it matters little what name is given to it.

Land Revenue System—A Historical Survey:—

In India there are three different types of proprietary land tenure. (1) Zamindari tenure. (2) Mahalwari tenure. (3) *Ryotwari* tenure. But before we discuss in details the different kinds of land tenure which prevail in India at present it will be of great help to us in understanding the subject if we briefly study the land tenure system prevailing in ancient times and pre-British period in India.

In early times when population was small and there was no great scarcity of land in India such as it happens to-day the village communities were the sole authority and guiding force in the country. The country was governed by these communities which exercised their power through the village Panchayats. Though, the principle of peasant proprietorship prevailed in India there being no overlord except the ruler of the country but the village community enjoyed certain rights in the village land. The village community was the absolute owner of meadows, pasture-lands, tanks, and irrigation channels, and the least encroachment of such common rights by a cultivator was punished by the village assembly.* With the growth of population it became necessary everywhere to protect the cultivator's right of grazing and cutting fuel and the communal control of wood lands, pastures and irrigation channels in the interest of intensive farming and animal husbandry. The village community, with its necessary institution Panchayat used to maintain the rights of entail,

*Dr. R. K. Mukerji, *Economic Problems of Modern India*, p. 218.

pre-emption, and pre-occupation. Through centuries the village community was responsible for the collection of village revenue. In fact the collective assessment from the entire village was the method prevailing from the time of Chandra Gupta Maurya to the Mohammedan rule. During the Mohammedan rule revenue was collected from the individual farmer but in the later days of Moghul Empire the collective assessment again became popular. The provincial chief used to enter into a settlement with the villagers through their headmen for a fixed annual revenue.

In ancient times under the Hindu rule kings in India used to take a share in the produce of land which was $1/6$ in normal times according to Manu but which could be raised to $1/4$ in case of emergency like war etc. This was a very equitable method of revenue collection because *the share of the king also varied with the crops and therefore* there was no need of giving remissions and suspensions. Though it was a very equitable method but it suffered from several defects. As the population grew and vast areas were brought under cultivation it became very difficult to collect land revenue in kind, and therefore it was superseded by money payments. In the times of Mohammedan rule cash payment became the rule.

In the Hindu period the administration of land revenue, etc., was carried on by the family unit. Each family head was a member of the village council under the presidency of village headman. The headmen of ten villages formed another council under a Chaudhri, and ten Chaudharies representing 100 villages formed a pargana, and ten parganas formed a supreme council under a Raja. The headman settled the total revenue with the Raja and distributed among the families. This collective system of assessment prevailed till the Mohammedan conquest.

After establishing themselves firmly in India Moham-
medan Kings kept a portion of land to meet the expenses
of the royal households. These reserved lands were called
'khalsa' and the remainder, called 'jagir lands' which were
split up into military circles and given over to taluqdars
and subas who paid *khiraj* or tribute and contributed
soldiers whenever the King or Emperor required their
services during war time. These taluqdars and subas
distributed their allotments to jagirdars under them and
this produced a heterogeneous and a large number of
superior and inferior jagirdars. But this should not be
confused with the existing zamindari system. This sys-
tem was modified by Akbar and his successors and the
"farming system" was introduced in which villages were
leased out to contractors or "farmers" on the payment of a
fixed quantity of produce or cash with the cultivators.
Ser Shah attempted to commute produce revenue into
cash, but it was during the reign of Akbar that Raja Todar-
mal carried out a detailed settlement. After a careful survey
the land was classified into 4 classes and the share of the
State was fixed at $1/3$ of the gross produce. The term of
settlement was fixed at 9 years and option was given to pay
in cash on the average prices of food-stuffs in 19 years
preceding the settlement.

Rise of Assignees, Farmers, and Zamindars :—

After the death of Aurangzeb the central authority became
very weak, small chiefs, zamindars, and revenue farmers
increased the burden of the peasantry and levied multi-
farious exactions (*abwabs*) specially in those parts of the
country which were at a distance from the seat of Central
and Provincial Governments. In South and West the
village communities were strong and the rise of Marhatta
power did not allow such overlords to grow and therefore
the village communities withstood rack-renting and still

remained intact collecting the imperial, provincial and rural revenues until these were disintegrated by the land settlements carried on by the British in the middle of the nineteenth century. Under the British these village communities were disregarded in the south and individual assessment was introduced. But in Northern India the village community broke down. The breaking down of Moghul Empire, setting up of independent kingdoms in the whole of the country by the Subedars and jagidars weakened the power of the Central and Provincial Governments. A host of petty chiefs appeared who assumed the rôle of sovereign rulers. When the political conditions were so disturbed and the Provincial Governors, Chiefs and assignees began to show a spirit of insubordination and revolt, the central authority had to introduce a system of 'revenue farming' in order to ensure a regular flow of income to the Imperial treasury. Under this system the right of collecting land revenue of a particular pargana or district was given to the "revenue farmer or contractor." The revenue farmer used to pay 9/10ths of the collections to the State and retained 1/10th for his remuneration. Later on the right of collecting revenue from a certain district or pargana, began to be disposed of by public auction to the highest bidder, who used to pay the fixed amount in lump-sum to the Imperial treasury and retained the surplus for themselves. Gradually revenue farming was introduced in the whole of Northern India. In the beginning the office of revenue farmer was not hereditary nor he could realise more than the due from the farmer. But with passage of time the Imperial authority became extremely weak and could not check these farmers from rack-renting. They began to charge anything they could take out of the peasant. Gradually these revenue farmers, became very influential in their areas and with their army,

of soldiers and subordinate staff they became over powerful. No other man could usually take the risk of purchasing the right of collecting the land revenue and thus with growing weakness of the Imperial authority their office became hereditary. Once they consolidated their position they began to levy multifarious exactions (*abwabs*) on the unprotected peasants. The political chaos depended with the fall of Moghul Empire. These revenue farmers acquired proprietary rights by appropriating the waste lands, in addition to the 'sir' lands of the village and by forcing the peasants to sell their lands to them. The disorganisation of the revenue system created a large variety of heterogenous land tenures and rights. Regular assessment and surveys were discontinued which made the situation worse. As pointed out above the village communities in the South and West successfully withstood the onslaught of these revenue farmers upon their rights but in the north they broke down just before the coming in of the British. In the Deccan they broke down when the British Government introduced the *rystwari* settlement in the middle of 19th century.

When the right of collecting land revenue was granted by Shah Alam to the East India Company in 1765 the revenue farming system was in force in those provinces, and by the time of Lord Cornwallis these revenue farmers consolidated their power to a very great extent. Lord Cornwallis mistook them to be landlords with proprietary rights in their estates. To put the land revenue system on a sound footing and to bestow the right of absolute ownership of land to the landlords the company recognised the rights of the revenue farmers as owners of their estates. Lord Cornwallis by introducing permanent settlement in 1793 identified the class who were in truth assignees, farmers etc., with the English landlords who

were real proprietors and thus completely deprived the peasant or 'khudkasht' ryot of his customary rights of freedom from eviction so long as he paid the rents, and, of privileges of homestead plots, wastes, and to the pasture and forest lands, bundhs, tanks, irrigation channels and fisheries, to the services of the village servants, and to the pick of the fields left unoccupied.*

No doubt Lord Cornwallis also wanted to fix the rent payable by the ryot to the zamindar as he fixed the land revenue payable by the zamindar to the State. But the detailed enquiries which it required could not be carried out owing to his pre-occupation with war, the cost of enquiries, and the abolition of the office of Kanoongos. With a few decades not merely were the customary rates all broken up district by district, but the rights of the ryots were so completely obliterated that it became difficult to ascertain afterwards what they were. The village community was also broken to pieces, the peasants were disorganised and zamindars appropriated and distributed all village meadows and waste lands among the cultivators on rent.

Really speaking, in recent times the landlords estates had arisen either from the recognition of the revenue farmers as landlords by the British (Bengal, Bihar, Eastern U.P., North Madras, and parts of Bombay) or territorial chiefs whose tributes were converted into revenue (Madras and C.P.) or from grants of jagirs for services to the state (Oudh Taluqdars) or from acquisition through purchase or mortgage of estates by Bankers or capitalists. Thus the existing landlordism in India is a creation of British and is not an indigenous institution of India. This emergence of landlordism caused the decay of the village

*Dr. R. K. Mukerji: Economic Problems of Modern India.

community and of the peasant proprietor and led to the creation of a class of rent receiving middlemen who exploited and tyrannised over the cultivators.

Later on the Permanent Settlement was also extended to Eastern U.P. and led to similar evils. In C.P. the malguzars of the Marhatta period were converted into proprietors though their status was inferior to the Bengal zamindars and the settlement was temporary. In Oudh the small chiefs, jagirdars and revenue farmers were converted into proprietors and after 1857 due to their loyal services in suppressing the mutiny special privileges were granted. Afterwards in Madras and Bombay where no such revenue farming class entrenched itself owing to the strong government even after the fall of Moghul Empire the British could not confer the right of proprietorship as they did in North, but they introduced the *ryotwari* system by altogether neglecting the active and strong village communities. Thus in these provinces *ryotwari* system with periodical revision was introduced. The assessments were pitched very high which caused great distress in the peasantry. In the rest of U.P. Mahalwari tenures were introduced with temporary settlement.

Different types of land tenure:—As pointed out above in India there are three different types of proprietary land tenures. (1) zamindari tenure, (2) Mahalwari tenure and (3) Ryotwari tenure. In fact they do not complete the list of land tenures, the land tenures in India show a great variety which is due to the disturbed social, and political history of the different parts of the country. The above mentioned types of land tenure are broadly speaking the main kinds of land tenures in the country.

1. **Zamindari or Landlord tenures:**—In this tenure a single individual or a few joint owners are responsible

for the payment of collective land revenue in lump sum to the Government on the entire estate. This system prevails in Bengal, U.P., North Madras, and some parts of Bombay and C.P. Under this tenure one landlord is made responsible for the payment of land revenue on the entire estate. He acts as a middleman between the Government and the tenants. The settlement is permanent in Bengal, Bihar, North Eastern Madras, and Benares division of U.P. and it is temporary in Oudh and in some parts of Bengal not permanently settled.

Mahalwari Tenure:—The Mahalwari tenure is met with in the rest of U.P. (excepting Oudh and the Benares division) Punjab, and C.P. In this case the Government enters into an agreement with the co-sharers of the estate or village communities who are jointly and severally responsible for payment of land revenue. The settlement is usually for 20 or 30 years. An intermediary is usually appointed by the Government who is called "Lambardar" in U.P. and Malguzar in C.P. and he is responsible for payment of land revenue on behalf of the village community. About one half of the net assets are taken by the Government.

Ryotwari Tenure:—This system prevails in a large part of Madras (leaving aside the permanently settled districts). Assam, Bombay (excepting a few districts where zamindari system operates) Sind, and Berar. In the ryotwari tenure the state deals directly with the individual ryots and no middlemen are recognised. The cultivators pay land revenue direct to the government.

Land Revenue Settlements:—In India there are many types of settlements. There are temporary settlements which are fixed for a number of years 20 to 30 in

different provinces and Permanent Settlements which are fixed in perpetuity. This classification is on the basis of the time during which the settlement runs. Permanent Settlement prevails in Bengal, Benares division and the North Eastern districts of Madras.

Settlements are also classified according to the tenures or the way in which lands are held and revenue paid. From this point of view, the settlements are of these three types (a) Zamindari, (b) Mahalwari, (c) Ryotwari.

A settlement determines the share of the produce or rent which goes to the state, the person or bodies who have to pay it, and a record of all the private rights and interest in the land.

In order to carry on settlements, proper cadastral records must be prepared from a consideration of the village map, the revenue record and record of rights. Detailed field to field surveys are undertaken and maps are prepared on the basis of these surveys showing cultivated and waste lands and the extent of the different types of land. Separate holdings are also marked in the map. The record of rights consists of the tenure under which the land is held, that is to say, the right of landlords, co-sharers, the different types of tenants and their status. It also includes rights created by mortgage, sale, or lease of the lands. Next the revenue demand is determined with reference to a valuation of the land, the determination of revenue rates and their adjustment. The land revenue is not collected in one lump sum but in instalments. In case the land revenue is not paid by the holder of land the dues of the state are recovered by penal measures, though these measures differ in different settlements. In Permanent Settlements the estates are sold if the revenue is not paid to the Government on due date. In temporary settlements the proce-

dure adopted is not at all so harsh, every consideration is made for the defaulter and much latitude is allowed. It is only in the last resort that sale of land takes place in the temporary settlement. In practice it very rarely happens. In permanently settled tracts no remission of land revenue is allowed on the ground of failures of crops or depression in agricultural prices, etc. But in temporary settled parts when the crops fail or the prices of agricultural commodities go down abnormally low remission of land revenue is allowed to lighten the burden on the tenant and the landlord. But even in these parts remission is only allowed when it is definitely proved that remission is urgently called for.

As far as the assessment of land revenue is concerned there is no single principle which may be said to apply to whole of India. It varies from province to province. In the Central Provinces, the Punjab, and the United Provinces the economic rent is taken as the basis of assessment. In Madras gross produce minus cultivators expenses of cultivation is taken as the basis. In Bombay, until recently assessment was fairly empirical depending on general considerations. Recently in Bombay the rental-value is used as the basis of land revenue assessments. The share that the state takes also varies in different provinces. In Madras the State takes 25 per cent. of the gross produce minus cost. In U.P. and Punjab the share is 50 per cent. of the net assets, which means the net rental value.

Zamindari Settlements: Permanent Settlement in Bengal:—The Permanent Settlement in Bengal was effected in 1793. We have already seen how the revenue farming in northern India led to the degradation of the old ryots and over their heads a body of landlords known as zamindars was created. We have already

pointed out that with the downfall of Moghul Emperors the revenue administration fell into decay and the cultivators were ground down by the exactions of the zamindars on the one hand and the numerous levies imposed by the Provincial rulers. Under the Diwani rights the East India Company annual leases for the collection of revenue were sold by public auction to the highest bidders who tried to squeeze out of the tenants as much as they possibly could. This brought about chaos in the land revenue administration and to improve this deplorable state of affairs Lord Cornwallis introduced Permanent Settlement in Bengal.

After thorough enquiries a settlement was made with zamindars of Bengal who were really the revenue farmers. Under the Permanent Settlement these zamindars were declared full legal proprietors over lands in respect of which they used to collect revenue. The idea underlying this declaration was to confer upon them a legal status which would give them power and influence and would enable them to fulfil their obligation to the Government and induce them to take a keen interest in the improvement of their estates. The rights of the zamindars were given subject to the payment of land revenue which was fixed once for all and one of the conditions of settlement was that if any zamindar failed to pay the land revenue to the state on the due date his estate will be sold. The Government also reserved the right to introduce any measures they might think necessary for the protection and welfare of dependent taluqdars, ryots, and other cultivators of the soil. The land revenue was assessed at ten-elevenths of what the zamindar got from the tenants as rent, the remaining one-tenth being his share for the assumption of risk and responsibility. As mentioned above the settlement was declared permanent and the assessment unalterable for-

ever, and the Government undertook not to make any demand upon the zamindars or their successors for increasing the assessment in consequence of the improvement of their respective estates.

By introducing Permanent Settlement in Bengal Lord Cornwallis wished to create a landed aristocracy in this country corresponding to the landlords of England who would improve the lands, take interest in the welfare of his tenants, and act as strong and loyal supporters of the State. But the Permanent Settlement in Bengal was carried out in such a hurry that proper attention could not be paid to such things as rights and interests in land, the productive power of the different types of soils and accurate surveys. This is why the settlement could not be carried on satisfactorily and it had not the desired results.

In Bengal there is a great controversy with regard to advantages and disadvantages of Permanent Settlement. The Permanent Settlement is criticised firstly on the ground that the Settlement was carried on in a hurry and no detailed survey was made, classification of soils and the preparation of a record of rights was dispensed with. Secondly the rights of the ryot were not protected, it was left to the free will of the landlords to protect the rights of the ryots. This has remained a pious wish throughout, and the zamindars did not consider it their duty to come to an understanding with the tenants and protect their rights. The ryots suffered a great injustice; they lost their proprietary rights indefinitely and they were left by the state entirely at the mercy of the zamindars who rack-rented and exploited them to the fullest extent. Thirdly the perpetuity of assessment is also open to criticism but it is not limited to Bengal only and therefore it will be treated at a later stage. The critics of the Permanent Settlement in Bengal therefore assert that it has benefited only

the zamindars and none else. On the other hand the zamindars and their supporters are never tired of singing the praises of Permanent Settlement which is in their opinion an instrument of welfare and has done a great deal for rural-uplift.

Permanent Settlement in Benares and Madras:—

The Permanent Settlement also prevails in Benares Division of U.P. and the North-Eastern districts of Madras. Following the example of Bengal Permanent Settlement was adopted in Benares in 1795. In Madras the authorities could not decide for some time whether Permanent Settlement or temporary settlement should be adopted. At that time the Government was very much attracted by the Permanent Settlement because it assured of a stable revenue and punctual payment. Therefore one-third of the areas in Madras were permanently settled. But Madras was a *ryotwari* province, there being no revenue farmers or zamindars with whom settlement could be made. The authorities tried to create zamindars out of these tenure holders by selecting the most enterprising and energetic among them. In order to achieve their object the authorities grouped the *ryotwari* villages into artificial districts and sold them to the highest bidder. Thus a new class of zamindars were artificially created. These created landlords could not make the Permanent Settlement a great success from the revenue collection point of view. And that was the main consideration why the Government favoured Permanent Settlement. Once it did not prove successful from the revenue point of view all enthusiasm cooled down and in the rest of the Province the *ryotwari* system was allowed to be adopted and temporary settlement took place. The results of Permanent Settlement in Benares and Madras were similar to those of Bengal. The ryot was deprived of his customary right of

freedom from eviction as long as he paid the rents and of privileges of homestead plots, wastes and meadows and ponds, etc. The village community was broken into pieces and the peasants were disorganised so that the landlords exploited them to their heart's content.

Permanent versus Temporary Settlement.—

There has been a great controversy regarding the Permanent Settlement in India. There are those who are great admirers of the Permanent Settlement and feel that it had been of great benefit to the peasantry, the state and the agriculture in India and on the contrary there is another school of thought which holds that it had been all evil and should be abandoned.

Those who support it contend that it has been very successful in Bengal. (1) According to them, it has ensured to the state a fixed and stable revenue without incurring heavy expenses in connection with periodical re-assessments and collection, (2) From the political standpoint, they say, it has secured the unflinching loyalty of zamindars for the state, (3) They further contend that through Permanent Settlement the ryots have got natural leaders in their zamindars who have done an immense amount of good to the country by encouraging education and providing medical help and sanitary conditions in the countryside. Moreover according to the upholders of Permanent Settlement a lot of agricultural improvement has taken place due to the keen interest of zamindars in the welfare of their tenants, the result has been that it has secured agriculture enterprise and prosperity and has created a resourceful peasantry which has shown great capacity of resistance in times of famines and scarcity. Lastly it is said that all evils associated with temporary settlement are avoided under the Permanent Settlement. Under temporary settlements the tenant is unduly harassed on account

of the arbitrary actions of the Settlement Officers at the time of settlement. The whole countryside is disturbed for a considerably long period of time under temporary settlement, the tenants are encouraged to neglect his lands at the end of the term of settlement so that land may deteriorate and he may escape enhancement in assessment. Already agriculture in India is in a backward state, and this tendency is likely to affect adversely the future of the industry in this country. Permanent Settlement will avoid all these difficulties and further it will mean a great saving to the state as much as it will not have to set up a most expensive machinery for re-settlement which means a very heavy cost for the Government.

On the other hand the opponents of the Permanent Settlement put forward equally large number of weighty arguments denouncing the Permanent Settlement in toto. (1) The first and most important argument which they advance against the Permanent Settlement is that of huge financial loss to the state which the Government has to suffer every year for all time. In Permanent Settlement land revenue is fixed in perpetuity and future increase of income from land due to factors like rise in prices, improvement of transport and growth of population etc., accrue to the landlords and the State is deprived of its share in the increased income from the land. Land Revenue is the most important source of revenue for the Provincial Governments and if that very source cannot be fully tapped by the Provincial Governments they would be put to serious financial stringency. The Provincial Governments are expected to spend increasing amounts on education, sanitation, health and medical facilities, transport development, agriculture, industries and such other Nation-building departments. If their only important source of revenue, *i.e.*, land-revenue is thus

fixed in perpetuity they will find it impossible to undertake these expenses. To understand the full force of this argument one should only study the land revenue earnings of the Bengal Government. According to the Floud Commission the Government in Bengal incurs annual loss between Rs. 2 crores to Rs. 8 crores on land revenue because of Permanent Settlement. It was expected that due to Permanent Settlement other sources of State income would grow, but the expectation did not materialise to anything like the extent hoped for. Thus the Government has been deprived of its legitimate share in the increasing prosperity of zamindars which is not at all the result of the landlord's efforts but it is due to social factors such as increased population, rise in price, improvement of transportation. (2) As regards the political argument that zamindar's loyalty would be secured by the Permanent Settlement the opponents contend that the zamindars in temporary settled areas are also equally loyal to the Government and moreover during modern times the loyalty of zamindars is not so much needed by the state as that of masses, and therefore the political argument does not hold good. (3) The hope that the zamindars will form a powerful class of natural leaders in rural areas and they will act as benevolent landlords so that the rural areas will improve has not been realised. On the contrary they have proved absentee landlords and have left the villages for cities leaving behind their "Gumashtas and Karindas" to manage their estates." Invariably these Karindas have proved to be great tyrants and exploiters of poor tenants. The lure of cities has so enchanted the zamindars that they seldom think of their estates and tenants whose money they squander so lavishly. The dream that the Permanent Settlement will improve agriculture and the rural areas has been frustrated. The creation of a class of zamindars

has on the contrary a very depressing effect on the rural areas. (4) As regards the objection against temporary settlement that the revision of the settlement dislocates the whole economic life of the village it is contended by the critics of the Permanent Settlement that it is not so now. In the old days perhaps such a revision might have involved dislocation but the case is different now. The work of revision now is effected with much greater ease and rapidity than was formerly the case because of the system of land records, the preservation of boundaries, and a more or less permanent classification of land have greatly reduced the volume of work and fresh investigation at the time of each resettlement which comes at long intervals of 20 to 30 years. Therefore the disturbance in rural economy is very little and the expenditure involved in settlement revision has been reduced to minimum. The harassment and bribery has also been minimised by careful watch over the petty officials and entrusting the work of enquiry to highly placed responsible officials who are mostly sympathetic to the cultivators. As for the argument that in temporary settled tracts the lands will be neglected towards the end of the settlement it can be said that private improvements are protected against enhancement of assessment either permanently or for a considerably long time so that the fear of enhancement of assessment need not deter the cultivator from undertaking improvement. It only needs making this fact known to the tenants by intensive propaganda through the machinery of revenue officials. Moreover if they are educated as to the value of improvements in relation to land they will improve the land with greater confidence. It is therefore claimed by the supporters of the temporary settlement that under the present circumstances the temporary settlement is the most suitable and the Permanent Settlement should be abolished.

The supporters of the Permanent Settlement lastly fall back upon the legal safeguards and assert that it is a contract between the zamindars and the government so it could not be changed at the sweet will of the Government. The opponents while admit that Permanent Settlement was a contract put forward the argument that the conditions which formed the basis of contract have so far changed that it cannot possibly be upheld, now. Therefore no injustice will be done if the contract is annulled or revised.

Floud Commission :—The Floud Commission was appointed on the 5th November, 1938 to examine the land revenue system of Bengal in its various aspects with special reference to the Permanent Settlement. The Commission was also required to study the effects of Permanent Settlement on the economic and social structure of Bengal and its influence on the revenue and the administration of the Province and also to find out the advantages and disadvantages of the system. The main findings of the Floud Commission (which submitted its report in March 1940) regarding the Permanent Settlement were as follows :—

- (1) There is considerable loss resulting from fixity of revenue. According to the Commission the annual loss is between Rs. 2 crores to Rs. 8 crores.
- (2) There is no contact with cultivators on the part of Government. This is a serious defect of the system.
- (3) Another feature of the Permanent Settlement is absence of agricultural settlement.
- (4) Another very serious result of the Permanent Settlement is that the actual cultivators are increasingly losing occupancy rights.

- (5) There is a display of no-rent mentality among ryots.
- (6) The Permanent Settlement produced considerable sub-infeudation. The zamindars divide their lands, leased them to other people at higher rents, who in turn did the same thing. Thus a number of middlemen like taluqdar, Patnidar, etc., came in between the zamindar and the ryot. This increased the burden the ryot had to bear.

After considering the serious defects of the Permanent Settlement and the serious nature of sub-infeudation resulted therefrom the Commission came to the conclusion that "whatever may have been the justification of the Permanent Settlement in 1793 it is no longer suited to the condition of the present time. The zamindari system has developed so many defects that it has ceased to serve the national interest. No half measures will satisfactorily remedy its defects. Provided that a practicable scheme can be devised to acquire the interest of all classes to rent receivers on reasonable terms, the policy should be to bring the cultivators into the position of tenants holding directly under Government." The minority representing mostly the zamindar class in the Commission of course dissented.

With a view to bring about this change the Commission proposed that the state should purchase the rights of zamindars by paying compensation to them, the amount of compensation should be 10 to 15 times the net profit on the permanent settled lands. In calculating net profits the collection charges should be deducted at 18 per cent. In the opinion of the Commission the compensation money should preferably be paid in cash. But if that is not possible, the Government should issue bonds bearing interest at 4 per cent. and give them to zamindars.

In awarding compensation the Government should pay higher amounts for (Hindu) debuttars, wakf estates and other properties which form the subject matter of charitable endowments.

The scheme of purchasing the rights of the zamindars has been severely criticised by the zamindars and their supporters. It is argued that the amount of compensation suggested by the Commission is too small and if the estates of the zamindars were acquired by the Government at such a low price it would be nothing short of expropriation. It is further stated by the zamindars and their spokesmen that with the liquidation of zamindars will disappear the last landmarks of culture in the province, and many charitable and benevolent institutions which mostly depend upon zamindars will cease to work due to lack of funds. They also prophesy that by this method the Government would not succeed in increasing its income, rather there would be a reduction of revenue from stamps and the Government would have to pay the large sum of money assessed as compensation.

The above criticism mostly comes from zamindars and as such it exaggerates the difficulties which Government would have faced in acquiring the estates of these zamindars. However this much is clear that the zamindars have outlived their usefulness and are an anachronism under present conditions. There may be certain difficulties in the transition period when the rights of zamindars will be acquired by the state. But after sometime these will disappear. On the contrary the purchasing of zamindar's rights may react very favourably on the economy of the Province of Bengal and the sooner it is effected the better. The Bengal Government appointed Mr. Gurner to enquire but so far no step has been taken to purchase the rights of zamindars.

Temporary Settlement with the remaining zamindars of Bengal and the Taluqdars of Oudh:—

There are certain parts in Bengal that are not permanently settled. In the case of these temporary settled areas the states takes away 70 p.c. of the assets from the zamindars and leaves for them only 30 p.c. As to the system of assessment it is akin to that of Agra.

The Oudh Settlement with the Taluqdars is more or less a modified form of joint village or Mahalwari system of Settlement.

Mahalwari Settlements:—The Mahalwari tenure obtains in Agra, Punjab, and C.P. In these provinces there are village communities with landlord rights. And from past times they acted as one body for all dealings with the State. The British Government recognised these village communities. Therefore the settlement has been entered into with these village communities or co-sharing bodies. Though the broad principles of Mahalwari Settlement are the same in all the three provinces mentioned above but there is a great deal of differences in detail between the system in operation in the different provinces.

In Agra the settlement was made directly with village communities in their collective capacity, though a co-sharer of standing was selected to undertake the primary liability in connection with the payment of the land revenue and he signed the settlement on behalf of all the co-sharers, who were made jointly and severally responsible for the assessment. But a section of a village or even an individual co-sharer (above a certain limit) can move for "a perfect partition" that is of separate and individual revenue liability to take the place of joint liability.

The assessment is based on the actual rental value of the lands in the village. Revenue is determined as a

fraction of total annual rental value. It has varied from time to time. In the days of East India Company it was 80 p.c. In 1833 it became 66 p.c. and later on the share of the state was fixed at 50 p.c. and according to official claim the actual fraction realised in most cases is well below 50 per cent. at the present time.

Mahalwari Settlement in U.P.:—When settlement takes place in these provinces the Settlement Officer after inspecting the villages groups them into assessment circles possessing similarity of soil and physical character. Then the rent for each class of soil is determined. The cash rental value of the land is the chief guide for this purpose.

In Oudh settlement is practically the same as in Agra except that the settlement is mostly with single taluqdars for an estate comprising a greater or less number of villages and occasionally with village communities. The taluqdars' revenue payment is based on the aggregate of the rent which is levied on each village in his estate. In some cases the village communities under taluqdars have succeeded in preserving their rights. In such cases a sub-settlement with these village communities is made and the payment to taluqdars is fixed.

Mahalwari Settlement of the Punjab:—In the Punjab the method of assessment is different. There are very few tenants and if they exist they pay in kind and not in cash. The Settlement Officer therefore calculates direct revenue rates per acre for each kind of soil in the village, basing them on what the rental assets would be if cash rent was paid by every body.

Malguzari Settlement of the C.P.:—In the Central Provinces the British Government found that the revenue of the villages had been farmed out by the Marahattas

to individual called *malguzars*. The British Government conferred upon them the status of proprietors and recognised them as heads of villages. There were a large number of cultivator tenants whose rights of exclusive ownership of their holding were denied in the settlement. In fact the villages of C.P. were of the *ryotwari* type but they were degraded from the status of proprietors to that of tenants of *malguzars*. Therefore in order to compensate them for this degradation they were granted extensive protection as tenants of *malguzars*. Therefore the Settlement Officer does not only fix the revenue demand which the *malguzar* has to pay but he determines the rent as well which tenants have to pay to the *malguzars*. They have to be therefore very accurate in determining the rental value. For this purpose soils have to be grouped into units according to the productive capacity of the soil.

Ryotwari Settlements :—Ryotwari Settlements are temporary settlements with *ryots*, there being no intermediary between the State and the tenant as we come across in Zamindari and Mahalwari Settlements. The *ryotwari* settlements are usually for a period of 30 years. They are found in Assam, Sind, Berar, Madras and Bombay. Besides these British Provinces nearly all the Native States have *ryotwari* system. Burma is no more a part of India but it also has *ryotwari* settlement.

The Ryotwari System of Madras :—It has already been pointed out that in Madras the zamindari system under Permanent Settlement was introduced for the first time, but it proved a failure and thereupon in the rest of the province the *ryotwari* settlement was introduced. Under the *ryotwari* system of Madras the lands are classified according to the productivity of the soil which is estimated in terms of quantity of some ordinary grain

that is produced. The grain value is converted into money value at a commutation price based on an average of 20 non-famine years. From this the cost of cultivation is deducted and thus the net produce is arrived at. Allowances are made for trader's profits, distance from the market, seasonal fluctuations and unproductive areas. About half of the net produce so estimated is fixed as the maximum land revenue. These rates are further adjusted with reference to their proximity to roads and markets in the case of dry lands and in the case of wet lands the nature and quantity of water supply.

The Ryotwari System of Bombay:—The main features of the *ryotwari* system are similar to those in Madras, but the method of assessment is different. In Bombay the relative values of soils are classified once for all according to factors bearing on fertility like depth, texture, capacity to retain moisture, and other physical properties. Different values are assigned to different soils according to these qualities and expressed into fractions of a rupee. The first class soil is given the value of sixteen annas. Other soils are given less value in terms of annas according to their classification in a descending order. The object of this classification unlike that in Madras, is not to base the assessment on the net produce, but to use it merely as a basis for the distribution of the total revenue demand fixed for the area on general consideration.

In Sind the rates of assessment depend on irrigation facilities the most important factor determining the productivity of land.

In Berar the land revenue settlement is very similar to the system that operates in Bombay.

Assam:—In Assam the only proprietors were the Permanent Settlement landholders of the older Bengal

districts and some permanent cultivators. Their title was based on occupation of lands for ten years before the regulation of 1886. After the regulations they are holding on leases or grant of settlement for ten years. A great deal of land is also held on an annually renewed permit or patta. In Assam waste land rules are specially important because nearly 25 per cent. of the area is only under cultivation. The tea gardens of Assam are held on lease-hold tenures for long terms at low rates of assessment.

Sub-proprietary and cultivating tenures:—Sub-proprietary tenures are those in which the holder has a privileged position like the zamindar, except that he does not manage the whole estate. He is the full owner of his holding and his tenure is heritable, transferable and permanent and the payment is fixed. Such tenure holder are found in Bengal who were granted privileged position in 1885. The pattidars of Bengal were given a permanent lease for a portion of the estates by the zamindars. Sub-proprietary tenures are also found in C.P. and Oudh.

The most important cultivating tenures are the following:—(1) The permanent tenure holders. (2) Fixed rate tenants. (3) Ex-proprietary tenants. (4) Occupancy tenants. (5) Statutory tenants. (6) Tenants-at-will.

According to the Agra Tenancy Act of 1901 the first four types of tenants and non-occupancy tenants were created. 'The Permanent tenure holders' have rights and privileges similar to 'Zamindars' and are Sub-proprietors. Their rights are heritable and transferable and they can sell and mortgage their property. The rates of rent payable by them are fixed in perpetuity and they are found in the permanently settled areas of the Benares division. They cannot be ejected nor their rent can be increased.

The 'fixed rate tenants' are also sub-proprietors and are similar to the permanent tenure holders. They are also found in the permanent settled areas and possess the right of selling or mortgaging their property, they also enjoy heritable and transferable rights and the rates of rent to be paid by them are fixed once for all. Their peculiar feature is that the rent payable by them increases or decreases proportionately to their increased or decreased holdings. They cannot be ejected, nor their rates of rents be enhanced. The absolute occupancy tenants of C.P. hold a similar privileged position.

Ex-proprietary Tenants are those who were formerly proprietors but anyhow they lost their estates through debts etc., except the 'sir' land which they cultivate and on which they pay rent at reduced rates than other cultivators in the locality. Their rights are heritable but not transferable because they acquire ex-proprietary rights in their 'sir' land which they used to cultivate as zamindars they are named as ex-proprietary tenants.

Occupancy Tenants are a privileged class of tenants. They cannot be ejected from the land and their rents cannot be increased except by an order of the court. The enhancement in rent moreover, cannot be more than one or two annas in the rupee and can be effected only once in ten to fifteen years. Besides these privileges the occupancy tenants are also protected against any increment in rent caused by the improvement of land. Further the Act lays down that in case of suspension and remission of land revenue demand the occupancy tenants should also be given that concession. If such tenants fail to pay rent the cattle, seed, grains etc., are exempted from attachment. The rights of the occupancy

tenants are also heritable but not transferable except on certain conditions. Thus the occupancy tenants enjoy fixity of tenure, fair rents and freedom of transfer.

The Tenancy Act of 1859 first of all created the occupancy tenants in Bengal and Agra. The Act laid down that if any tenant had cultivated the same land continuously for twelve years he would acquire the occupancy right. The act however was evaded by landlords who made it impossible for any tenant to hold the same land continuously for 12 years. The Act was therefore amended in Bengal in 1885. Cultivation was now required not necessarily of the same piece of land, but of some land in the same village continuously for 12 years. In Agra in 1901 certain restrictions were imposed by the Act so as to prevent the landlords from defeating the purpose of the law. In Oudh occupancy rights at first limited under the Act of 1886 to tenants who having once enjoyed proprietary rights had lost them, were subsequently also extended to ex-proprietary tenants. In Punjab the right of occupancy can be acquired only by tenants whose claims are based on certain historical grounds and not on merely lapse of time. According to the Punjab Act of 1887 occupancy tenants are those who for two generations have paid neither rent nor services to the proprietor, but only their share of Government assessment. In C.P. also the 12 years rule was applied at first but later on it was changed, according to the changed rule the right of occupancy could be purchased at two and half times the annual rental. In the zamindari estates in Madras every ryot who possessed ryoti land at the time of passing of the Estates Land Act of 1908 and every ryot admitted by the landlord to the possession of ryoti land, has a permanent right of occupancy. Accordingly by the Act of 1880 occupancy tenants have been created in Bombay as well.

Statutory tenants were created by the Agra Tenancy Act of 1926. According to this act any tenant who cultivated a field for one year he could not be ejected from the land during his life time and his rent could not be increased within 20 years and without sufficient cause, their heirs also inherited the right of holding the land for 5 years after their death (of the life tenant). In case the zamindar allowed the heir of the deceased life tenant to cultivate the same land for the sixth year as well the heir in his own right used to become the life tenant. But with the passing of the Tenancy Act of 1939 most of the statutory tenants acquired the right of occupancy.

Non-occupancy tenants hold land under long and permanent leases. Tenants-at-will have no right in the land and can be ejected at any time at the sweet will of the zamindar. The Agra Tenancy Act of 1926 aimed at converting such tenants into statutory tenants, but the landlords did not allow them to cultivate the land for full one year unless they agreed to give up the statutory rights. Their lot is the most miserable one.

In Oudh the Act of 1886 created statutory tenants who could hold the land for 7 years at the same rent. Under the amending Act of 1921 they were entitled to receive a lease for ten years and could get the lease for every ten years if they agreed to pay the enhanced rent settled by the court or the zamindar. After their death their successors could hold the land for a further period of five years after which they could be removed by the zamindar. Under the Tenancy Act of 1939 all non-occupancy tenants, statutory tenants at the time of coming into force of the Act have become hereditary tenants except tenants at will or 'sir' tenants. But a large portion of the 'sir' tenants have also become hereditary tenants.

Tenancy Legislation:—Before the establishment of British rule in India the relations between landlords and tenants were governed by custom: The village panchayat zealously guarded all the rights and privileges. Moreover there was not such a heavy pressure of population on land because the rural and cottage industries were not dead. With the decline of these industries and consequent pressure on the land increased the demand of the land very much. This was not the only change which made the landlords very powerful but the disappearance of panchayat in British Raj removed all the check on the landlords. The landlords therefore began to give out land to the tenants on a competitive basis. Thus custom gave place to competition and there was absolutely no security of tenure. The tenants could be ejected at the sweet will of the zamindars and therefore the cultivators had no incentive to effect improvements in the land. Every cultivator tried to exploit the land as ruthlessly as possible without giving it proper manure and caring to keep up its fertility. This exploitation caused soil exhaustion and the industry was threatened with ruin. Therefore after mutiny tenancy legislation began to be passed with a view to protect the cultivators against rack-renting and to grant them fixity of tenure, freedom of transfer, and fair rents and to secure them their customary rights.

In India predominantly an agricultural country a sound land policy is absolutely necessary for stable economic development. Unless the tenant is assured that he will not be ejected from his land, and arbitrary enhancement will not be allowed the land will not be properly cultivated. For inducing the tenants to effect improvement in the land he must have security of tenure, to improve his standard of living and to finance his industry he must

have the lion's share of his industry through fair rents, and to be credit worthy he must have a freedom of transferring his land to a certain extent. The various tenancy legislations passed by the Government in different provinces were meant to secure these rights for the tenant.

Bengal:—In 1859 the first Tenancy Act was passed for Bengal and Agra to provide security of tenure and protection against arbitrary enhancements and illegal exactions by recognising occupancy status for every tenant who had cultivated the same land continuously for 12 years. But the landlords defeated the purpose of the law by not allowing any tenant to cultivate the land continuously for 12 years. Thereupon the Act of 1859 was amended in 1885 which conferred the occupancy status on any tenant who cultivated any land in the same village for 12 years continuously. This had the desired result and now 80 to 90 per cent. of tenants in Bengal enjoy this right. The non-occupancy tenants also can not be ejected except by the decree of the court and their rents cannot be enhanced within 5 years. In 1928 the occupancy tenants were further given the right of erecting houses and tanks, and later on the transfer of holding was allowed from one tenant to another on payment of 20 per cent. of the purchase money to the landlord. The levying of an unduly high rate of *salami* on the sale of land by ryot was thus stopped, but some landlords still charged *salami*, and *abwabs*. Therefore in 1937-38 an Act was passed which abolished this *salami*, and also the landlord's right of pre-emption which has been conferred on co-sharer ryots under this act. Over and above this the Act of 1937-38 also abolished the landlord's right of recovering arrears of rent by summary process of auctioning the land of the tenants. The rate of interest on arrears of rent was also reduced from $12\frac{1}{2}$ per cent. to $6\frac{1}{2}$ per cent. Illegal exactions

and cesses have been abolished and the tenant has been given the right to recover his deluvial land within 20 years on payment of only 4 years' rent. The under ryots also have been given the rights life occupancy tenants.*

Bihar :—To stop the same evils the Bihar Tenancy Act was passed in 1938 which reduced the rent to the level of 1911. Abolished the recovery in kind, exempted the enhancement of rents for 15 years and cancelled all enhancements except those on the grounds of improvements effected by the zamindars, reduced the interest on all the arrears of rent to 6½ per cent. granted absolute right of transfer to the tenants, made the levy of illegal exactions, *Nazrana*, *salami* etc., an offence punishable with imprisonment, withdrew the zamindar's right of claiming damages for arrears prevented eviction except from lands rendered uncultivable and conferred hereditary rights on occupancy tenants and the right to build houses, dig wells, and plant trees. The zamindar has got simply the right of getting rents from the occupancy tenants now. This Act has reduced very substantially the number of occupancy tenants.

Similar provisions were made in the Orissa Tenancy Bill and the Madras Land Estates Bill which attempted to curtail the arbitrary and unjust rights of the zamindars and proposed to give new rights and privileges to the tenants. The Central Provinces Tenancy Bill which was passed by the Assembly in 1939 aimed at overhauling the land and the tenancy system of the Province and sought to confer on occupancy tenants the right to transfer their holding. But these bills did not become Acts as the congress ministries resigned and the assent was withheld. These bills were passed by the respective Assemblies after heated controversy the zamindars protested against this attempt of the congress ministries which they characterised

*R. K. Mukerji :—Economic Problems of Modern India.

as expropriation of rights of property without compensation. But the labour of the Congress ministries was lost in these cases because they resigned at the outbreak of war and reactionary forces again got ascendancy in those provinces so the bills could not be placed on statute book.

In Bombay as well the ministry introduced a bill called the Bombay tenancy bill with a view to confer permanent rights on tenants at will and to protect even permanent tenants against illegal levies and forced or poorly paid labour in inam, khoti, or taluqdari villages. But area so affected amounts to only 8 or 9 per cent. of the cultivated land in the Province. The bill received the assent of the Governor-General and has come into force in selected areas in the Province.

United Provinces :—In United Provinces though the Agra Tenancy Act of 1926 and Oudh Tenancy Act of 1921 tried to give protection to the statutory tenants but much was wanting. The evils of rack-renting, nazrana, and harassing litigation existed and it was felt that life tenancy must be replaced by permanent and heritable occupancy status and then only the tenant could be saved from rack-renting and illegal and obnoxious exactions and levies.

After the inauguration of the New Constitution, the Congress formed the ministry and true to their promises passed the U.P. Tenancy Act of 1939. The chief features of the U.P. Tenancy Act 1939 are as follows :—

1. It is a consolidating measure applicable to whole of Agra and Oudh with the exception of a small area in Dehra Dun and Mirzapur districts.

2. **Hereditary rights for tenants :—**With a view to confer and increase the security of tenure to the tenant his interest in the land is made heri-

table like that of occupancy tenant. According to this act all statutory tenants and heirs of statutory tenants in Oudh and Agra, tenants in Oudh with proprietary or under-proprietary rights in the village, non-resident tenants of Oudh and tenants of Tea gardens and alluvial mahal, became hereditary tenants. All persons who cultivate land from a landlord in future shall become hereditary from the beginning. Even in case of 'sir' land tenants have been given security of tenure for 5 years. Therefore with the exception of a sub-tenant or tenants of 'sir' land all others get hereditary rights.

3. Curtailment of 'sir' rights of the landlord:—According to the Act of 1939 the 'Sir' land is limited to 50 acres only. In case of landlords paying more than Rs. 25 *abwabs* (local rates) or Rs. 250 as land revenue all lands which before the Agra Tenancy Act 1926 and Oudh Rent Act of 1921 were not 'sir', have ceased to be 'sir' of the remaining 'sir' of such landlords that portion which at the beginning of the act is let to tenants ceases to be 'sir', and the tenants of that 'sir' land also become hereditary tenants. No reduction or change is made in the 'sir' of small zamindars who pay Rs. 25 or less as *abwab* or Rs. 250 or less land revenue whether that 'sir' was acquired after the Acts of 1921 and 1926 or not, or whether it is sub-let or not. The tenants of 'sir' land will not be made hereditary rights but they also cannot be ejected from the land for 5 years. Thus there is no reduction of 'sir' of a zamindar if it is less than 50 acres and if it is more than 50 acres only 50 acres can be retained.

4. Rights of tenants to effect improvements:—Any tenant other than a sub-tenant can

construct on his holding a residential house or cattle-shed, or store-house or any other building for agriculture purpose without the permission of the landlord, but in case the tenant is ejected he cannot get compensation for such improvement, he can sell it to some one else with the consent of the landlord or he may remove it. A permanent tenure holder, a fixed rate tenant and an occupancy tenant or a special tenant in Oudh can make any building or construct wells, tanks etc., and water channels or works for drainage reclaim, clear, enclose, level or terrace the land and repair and renew them. An occupancy tenant in Agra and an ex-proprietary and a hereditary tenant may make any improvement except construction of tanks or other water storage works and of building in the immediate vicinity of the holding unless there is a local custom entitling him to do so or he has obtained the written consent of the landlord. A land holder can also make improvement with the written consent of a tenant in his holding except that of a permanent holder, fixed rate tenant, occupancy or special tenant in Oudh. Any tenant who makes an improvement in the holding with the consent of the landlord or to which he is entitled and is ejected later on for any reason he shall be paid compensation. A tenant other than a non-occupancy tenant can plant trees in his holdings provided he does not thereby diminish the value of land outside his holding. The trees on the holding of the tenant will be the property of the tenant.

Abolition of illegal exactions and cesses:—

Charging of a premium or *nazrana*, *abwab*, *hari*, *bayai* etc., and *begar* are prohibited under the Act. No cess

except the cess on Bazaar or fair which is sanctioned by the Provincial Government can be levied. If any person charges any 'lags or begar' or unsanctioned cesses and infringes these provisions he will be penalised.

Ejectment:—No tenant shall be ejected from his dwelling house in a village merely on the ground that he has been ejected from his holding. Ejectment for arrears of rent is possible in case of ex-proprietary, occupancy or hereditary tenants only when the arrear does not exceed one year's rent. The tenant gets two years time for payment. After that he will be ejected immediately. Distraint of crops has been prohibited thus the landlord has been given effective remedies for realising his rent without the power to harass the tenant.

Modifications in determination and payment of rent:—The landlord must issue receipts on a printed form supplied by the Government. The landlord must prepare and retain the counter-foil of each receipt granted. The failure to issue receipt makes him liable to a penalty. Moreover in rent suits a failure to produce counter-foils in the court will entitle it to form a reasonable presumption against the landlord.

The basis and method of assessment has been definitely laid down in the Act. In determining the rent rate officer will not only consider the actual rent paid the quality of the land and its produce and the price of agricultural produce, but also compare the valuation at his rates with the value of the produce to ensure that the valuation does not exceed $1/5$ of the produce and will consider the prices of articles which enter into the cost of production of the cultivator (*i.e.* his household expenses and cost of cultivation). In case of a sudden rise in prices a special officer will alter the rent in proportion to the increase or,

decrease in the assets of a malial. Suspension or remission of rent will be allowed according to the following table.

- (a) If the loss is upto 8 as. but less than 10 as. in the rupee a relief of 6 as. in the rupee will be granted.
- (b) If the loss is 10 as. but less than 12 as. a relief of 10 as. will be granted.
- (c) If the loss is 12 as. but less than 14 as. then a relief of Rc. 1 will be granted.

An enhancement of rent can be made only on account of improvement made by the landlord in the land. Thus the act of 1939 has granted fixity of tenure, fair rent, freedom from harassment. Though the act is wanting in certain respect it is a great improvement.

In *ryotwari* areas there has not been much necessity as in the zamindari areas to protect the interest of tenants. Of course there are some zamindari or quasi-zamindari estates in certain portions of Madras and in the case of estates of khots and Taluqdars in Bombay. In these cases legislation has been passed in order to protect the interest of tenants. Recently however there has been a considerable increase in the number tenancies even in the *ryotwari* areas and their condition is deplorable. So in the interest of this growing class of tenants special legislation should be undertaken by the Provincial Governments in their respective provinces.

The above survey of tenancy legislation in the various zamindari provinces and areas shows that the land problem has become very acute and there is a clash of interests between zamindars and peasants. In Orissa assembly a resolution was passed unanimously in September, 1939 favouring the introduction of legislation for enabling the Government to purchase zamindari estates on a voluntary

basis as far as possible. The Floud Commission in Bengal went a step further, it favoured compulsory purchase of zamindaries by the state. The time has come when a change in the existing socio-economic structure in rural India can no more be held back for long. Growing realisation of their force by the rural population the spread of modern ideas, and the general trend of land legislation throughout the world will make this change inevitable in India as well.

Need of Scientific assessment of rent:—One of the most important reforms in respect of land revenue system in India which needs adoption is a scientific method of assessment of rent. The basic principles differ from province to province and they are further modified by the introduction of other factors, moreover a very large amount is allowed to the Settlement Officer. In U.P., Punjab, and the Central Provinces the theoretical basis of assessment is the economic rent, in Madras the net produce. In Bombay until lately there was no principle of assessment but recently the rental value has been made the principal basis of assessment.

The system of land revenue in India is based to much on averages (average rainfall, average supply of water, average out-turn, average prices etc.) This inelasticity of the system leads to low production and indebtedness. It is antiquated and must be changed. The incidence of land revenue in India is much heavier than any other tax. In assessing the revenue the total cost of production is under-estimated and the cultivators' profits are not at all accounted for *i.e.* they are not included as part of cost of production even his wages are not included in the cost in some cases. This is wholly unscientific. For the assessment of fair land revenue the Settlement Officer in estimating the net produce or the economic surplus should

make full allowance for all the real expenses of cultivation, the labour of the cultivator and his family, the interest on the capital he borrows from season to season for agriculture, the depreciation on agricultural capital and live-stock and the insurance against the inevitable risks of agriculture in Indian conditions. Then those cultivators who do not possess economic holdings their case must be more favourably considered. The state should make it a point to return a much larger portion of land revenue to the villages so that the efficiency of the cultivator may increase.

APPLICATION OF THE CANONS OF TAXATION TO LAND REVENUE.

Certainty:—This canon is satisfied by the Land Revenue. Because the Land Revenue is a demand which is fixed during the currency of a settlement and consequently once the settlement is made the cultivator knows precisely what he has to pay in the shape of assessment on his land.

Convenience:—The canon of convenience is not fully satisfied. Though Government collects the Land Revenue in instalments at periods convenient to land holder yet in some cases it has not always been practicable fully to carry out this policy. According to Taxation Enquiry Committee the convenience has been sacrificed to certainty. The actual assessment is based on the averages of good and bad years, and as such the land revenue is inelastic. The inelastic nature of land revenue forces the cultivators in bad years to borrow from the money-lenders. The remission and suspension of land revenue though allowed in bad years yet it is not worked with sufficient elasticity and thus the cultivator is put to a lot of inconvenience. Another cause of inconvenience arises from the long term of settlement. The cultivator adjusts

his standard of living on the basis of land revenue which he has to pay during the currency of a settlement, and if the assessment is enhanced at the next settlement appreciably, he finds it difficult to adjust his family budget accordingly. In order to avoid this hardship enhancement in land revenue is not imposed all at once but gradually in a graduated manner. A third source of inconvenience is the process of settlement itself. Though the disturbance due to re-settlement has been reduced to minimum by perfecting the system of land records yet in some cases it takes years to be completed and the cultivators are put to inconvenience.

Economy:—It is difficult to say whether or not the canon of Economy is satisfied because the total expenditure incurred on the revenue establishment that is maintained cannot be debited entirely to the work of assessment and collection of land revenue. Because these officers of the Revenue Department carry on administrative and other miscellaneous duties as well besides collecting land revenue. But this can be pointed out that there is much room for economy in revenue collection.

Ability:—As to the canon of ability the official claim is that it is being increasingly satisfied on account of the progressive reduction in the share of the state. The Taxation Enquiry Committee also supported this contention. Though the above contention is correct yet it cannot be said that the canon of ability is satisfied. Because the holders of uneconomic holdings are also made to pay the same rate of land revenue as the holders of large holdings.

As regards the incidence of land revenue, owing to the variation of the systems followed between province and province and even between one district and another it is impossible to find out the actual burden of assessment in the different provinces.

Income-tax and Revenue:—There are striking differences which one finds in the treatment of the two kinds of income in India. (1) In the case of land revenue there is no tax free minimum as there is in the case of income tax. (2) The percentage of the tax to the income is very high in the case of land revenue. (3) There is no progression in the case of land revenue. Justice demands that land revenue should also be brought to the level of income-tax. But there are certain practical difficulties in changing land revenue, so that it may resemble income-tax. Exempting incomes from land below the income-tax free limit of Rs. 1,500 will bring financial difficulties to the Provincial Governments. Their finances will be adversely affected. The principle of progression may be applied to land revenue, as is done in more advanced European countries and Japan. It will appear therefore, that for some time the assimilation of land revenue to income-tax is not practicable in India. But one reform is urgently called for, the uneconomic holding should be exempted from land revenue, as they cannot pay any tax whatsoever.

Forms of Village Constitution:—There are two distinct types of villages in India namely, the *ryotwari*, and the landlord or joint village. There are several varieties of the landlord village.

(1) **Ryotwari Village:—**In the *ryotwari* village the land is owned and cultivated separately by the various owners, each of whom may have inherited or bought his holding or cleared it from the original jungle. The waste land of the village is the property of the Government though it may be used by the village for grazing and wood cutting, etc. Land revenue is assessed on each separate holding and the individual owners are responsible to pay it to the Government. This form of village is universal in Madras, Bombay, Berar, and Central India and was

also prevalent in C.P. and Bengal before the creation of malguzari and zamindari rights respectively.

(2) **The Landlord or Joint Village:**—The landlord village may be owned by a single individual landlord or a body of co-sharers who may represent a group of families which descended from the same ancestors and claim to be regarded collectively as the landlord of the village. But in either case the village is treated as a single unit. The waste land of the village is the property of the village community as a whole, so that it may be rented to tenants and rents divided among members of the community or it may be partitioned and cultivated without the permission of the Government. The whole estate is assessed to one sum of land revenue for which all the co-sharers are jointly and severally responsible, although with special permission of the Government any particular co-sharer can get himself exempted from joint responsibility and his individual share of land revenue may be separated. There is no single village headman in such village, but an individual may be selected as the lambardar to represent the village communities in their dealings with the Government specially in connection with land revenue settlement.

The joint or landlord villages are of three distinct varieties depending on the principle according to which co-sharers allot the land or profits and produce of the land.

(1) **Ancestral villages.** In these villages there is the ancestral or family share system under which each member of the co-sharing body takes the fraction of the whole which his place on the genealogical tree points out. There are the following types of ancestral villages:—(a) village held by a joint body undivided as in the case of a joint undivided family. (b) those divided under the ancestral

share system (Pattidari), (c) those partially divided on the ancestral system (imperfect Pattidari).

(2) **Non-ancestral villages:**—In non-ancestral villages there are special customary systems of sharing under the true Bhaichara principles of (a) sharing in equal lots made up artificially of various strips of land (b) sharing by ploughs in which land is given according to the number ploughs owned or (c) with reference to share in waters or (d) share in wells. In all these cases however allotments are still regarded as shares of a jointly owned whole.

(3) There is the system of *de facto* holdings where there is no specific rule of sharing and the existing holdings are recognised as such.

In some cases over the village landlord bodies a superior overlordship may arise as in the case of Oudh Taluqdars who are overlords over a number of village communities. The latter, however, retain the same essential principles as in the case of independent village communities.

CHAPTER XII.

Agriculture Indebtedness.

"His speech is mortgaged bedding,
On his kine he borrows yet,
At his heart is his daughter's wedding,
In his eyes fore-knowledge of debt.
He eats and hath indigestion,
He toils and he may not stop,
His life is a long drawn question,
Between a crop and a crop."

—*Kipling.*

The above picture of the Indian peasant in its essentials cannot be called an over-drawn one. The life he lives would hardly arouse an envy, because it is a life of poverty amidst plenty, and of distress and disappointment amidst toil, day in and day out, in the rains, and the biting cold and under the scorching heat of the tropics, a toil that does not seem to tire him. And when he so patiently and ungrudgingly labours on his field, his only reward that awaits him unfailingly is slow starvation, disease and death, and his women and his children expect no better, forming his eternal company in the life's unhappy journey. The strands that blend into such a melancholy picture are many and various, and the burden of debt, the only patrimony that the poor farmer invariably inherits, is not the least important of them. Let us then discuss this problem of agriculturists' indebtedness which has cast dark shadows on his life and made the future so dull and life-less. A successful solution of it is thus of fundamental importance in the scheme of improving the present condition of the Indian farmer.

To have a more clear and concrete realisation of the extent of our rural indebtedness, we have only to look at the different estimates arrived at by different persons and bodies about its total amount. The Deccan Riots Commission (1875) came to the conclusion that the debts averaged about eighteen times the land assessment in the twelve villages of the Ahmednagar district whose situation the Commission analysed. The average debt per occupant of the Government land in these villages was supposed to lie at the figure of Rs. 371. In 1895 Sir Frederick Nicholson put the amount for the whole of Madras at Rs. 45 crores. Then came the estimate of Sir Edward Maclagan who in 1911 calculated the total agricultural debt of British India to be about Rs. 300 crores. This was based on Nicholson's estimate of 1895 for Madras. Mr. Darling in his 'The Punjab Peasant in Prosperity and Debt' (1932 ed.) makes the following observation about the total agricultural debt of the British India: "On the basis of the Punjab figure for 1921, I hazarded the guess in the first edition (1928) of this book that the total agricultural debt of British India was 'not less than 600 crores.' For 1929 on the basis of the figures (for different provinces as estimated by Provincial Banking Enquiry Committee), we may say that it is not less than 850 crores. For the whole of India we may put total agricultural debt at about Rs. 1,000 crores. The Central Banking Enquiry Committee which published its report in 1930 have also arrived at more or less the same conclusion for the British India, nearly Rs. 900 crores. Though the various estimates given above can have no claim to absolute accuracy, yet they are valuable in so far as they give an idea of the extent of our agricultural debt. After 1929 for which the latest figures relate, the amount of indebtedness must have appreciably increased specially during the past—1929

depression period, in which because of the unprecedented fall in the prices of agricultural commodities the actual incidence must have also become much more crushing. P. J. Thomas in his 'The Problem of Rural Indebtedness' puts the figure for British India alone at more than Rs. 1,200 crores. The Reserve Bank in 1938 put the figure at 1,80 crores. The outbreak of the present world-war and the consequent rise in the level of agricultural with other prices must have of course not only lessened the rate of the growth of indebtedness but also reduced its real burden. The problem, however, stands as it did, and the post-war depression that is bound to follow the boom of to-day would only help to intensify and accentuate it in near future. The urgency of its solution, therefore, remains as great or even greater than in the past. Before considering this, however, it is important that we have a clear appreciation of the nature and the causes of this all-important question of rural debt.

So far as the nature of the problem goes, we have only to remember one fact that it is neither the amount of the debt nor the rate of its growth but its character of being mostly unproductive which is very disquieting. Agricultural indebtedness as such is no peculiarity of India, all countries have it and there is nothing wrong or undesirable about it. The amount of our total debt is also not alarming in view of the vast size of the land, nor there is anything disheartening about the rate of its progress. The really distressing feature, to repeat, is its unproductive character. Any accurate estimate about the proportion of this unproductive debt to the total amount is of course out of question. In many cases the objective of taking a loan would remain undisclosed, in others what is mentioned may not be the real cause. Still the following remarks may be enlightening. The Bombay Banking Enquiry Committee Report states that most loans are not

for productive purposes and adds that 'debts incurred for productive purposes such as seed, bullocks and manure turn out to be unproductive when seasons fail. According to the report of the United Provinces Committee only 30 per cent. of the debts is 'due to the needs of the cultivator's industry', 34 per cent. to his poverty and 36 per cent. to the social, religious or legal customs by which he is bound. The Central Provinces report comes to the conclusion that excluding old debts (26 per cent. of the whole) 34 per cent. of the total was incurred for non-productive purposes.* And what applies to the above-mentioned provinces, holds good to a greater or less extent for the rest of the country also. The unsatisfactory feature of unproductive debts lies in the fact that they do not, like productive debts, create their own means of repayment by increasing the productivity of the land. When the interest rate is high, as is the case in India, its repayment becomes all the more difficult and its increase becomes automatic.

To come, now, to the causes of this rural debt of our country: If we intelligently analyse and examine the different causes of the agriculturist's debt as enumerated in every text-book of Indian Economics, we will find that they can be traced to both the subjective and objective situations in which the Indian peasant lives and which in themselves act and react upon each other. Objectively speaking, it is a well-known fact that agriculture in India is followed in most of the cases as more a way of life than a means of a profitable undertaking. Hence even in normal conditions it is a problem for the agriculturist to make both ends meet and very often he has to go in for a debt for the purpose. The reasons that make agriculture an unprofitable proposition in our country to-day are many

* Punjab Peasant in Prosperity and Debt; Darling (1932 ed. pp 19-20).

and varied and include all such factors as excessive pressure of the population on land, excessive sub-division and fragmentation of holdings, lack of permanent improvements, inefficiency of our human factor, want of suitable subsidiary industries that would make an addition to the cultivator's income from agriculture inefficient system of farming, bad marketing, a heavy and rigid system of land revenue, bad financings and last but not least the agriculturist's indebtedness itself, which is not only an effect but also a very important cause of his low income from land and consequent poverty that keeps him always under its crushing weight. The second thing flows as a natural corollary from the first. One who has insufficient means even for day to day requirements certainly can have no provision for difficult and abnormal times. Therefore, whenever the poor peasant is face to face with any abnormal demand on his purse either due to failure of harvests, or loss of cattle, or need for replacing them and his implements, he has no funds at his command and his only source is the village money-lender or the co-operative society from where he would contract a debt. The same thing happens when he has to meet some special expenditure either due to litigation or a social or religious ceremony such as concerning birth, marriage, or death. Whether an expenditure on these accounts is justified or not is a different question that we shall discuss a little later in the following lines. \ Other factors in the objective situation of the cultivator which should merit our consideration in the matter of agriculturists' indebtedness are his ancestral debt, the predominance of the money-lender in the system of rural finance, the change in the economic position of the farmer due to the increased value of his land, the ease with which realization of loans has become possible under the newly established system of civil courts in

British India, and last but not least the disintegration of the ancient village community which always exercised a healthy check upon the unconscionable practices of the village Sahukar. The importance of ancestral debt as a cause of rural indebtedness is very great. It is particularly so because tradition in India makes the payment of the father's debt by the son a moral obligation which no honourable person would like to evade, and thus face the stigma and the public criticism that must inevitably follow such a step. The ignorance of the people about the legal position that the heir is bound for the debt of the person whom he has succeeded only to the extent of the property inherited has only helped to aggravate the force of the above-mentioned tradition. How far the monopolist position of the money-lender and his terms of lending are the result of the circumstances in which he has to work and how far he exploits the ignorance and helplessness of his client and thus becomes one of the important causes leading to his indebtedness, are questions that we shall have an occasion to discuss in the chapter on Rural Finance wherein we shall also suggest the necessary reforms, legal and otherwise, to remedy the existing unsatisfactory state of affairs. The new system of civil administration in the country has in more than one way weighed the scales against the poor villager. The highly complicated and expensive court procedures, the excessive pressure of work with the judges and rigid and mechanical application of the law, the judges' natural lack of understanding of and sympathy for the rural man's situation because of their being town-bred, and the possibility of their being played into the hands of the astute village Bania who may also adopt other unfair practices to influence the masters of justice—have all worked in the same unmistakable direction of making the poor agriculturists' position more and

more untenable. The peace and security of life and property that have followed in the wake of the establishment of *Pax Britannica* and a stable form of Government combined with better communications, growth of national and international markets for our produce and consequent high prices, have increased the value of land and thus of the security that the peasant can offer. This has enhanced his borrowing capacity and made it easy for him to take more and more loans thus increasing his debt. Another occasional factor that has worked in the same direction with the same result is the brief spells of prosperity that the cultivator has from time to time enjoyed. Because prosperity is as much a cause of debt as poverty, when it is not continued. The habits of expenditure contracted in times of increased incomes die hard and even when the economic conditions deteriorates most of the newly created wants, many of them definitely unhealthy and disastrous, have to be met and borrowing becomes the only means to do it. The sudden and at times unearned nature of increased incomes also do not leave a good impression on the cultivator's character particularly because his illiteracy and lack of foresight and thought leads him to several uncontrolled outbursts in the field of expenditure.* The centralised form of administration that the British rule in India established also went against the interests of the Indian farmer because the decline of village community that followed as a natural consequence of the above summation meant an end of that healthy check which otherwise existed and protected the agriculturist debtor from exploitation by the money-lender. The new machinery of administration has no rural outlook and sympathy for the villager, it on the other hand has weighed the scales

*The passage of legislative measures either to check alienation of land non-agriculturists or to control the operations of the money-lender have to some extent adversely affected the borrowing capacity of the cultivator.

against him. These are then the facts of the objective situation that are responsible for the present indebtedness of our rural community. But there is the subjective aspect of the problem also which is as it should be, to a very great extent the result of the above objective conditions. The poor man of the village is illiterate and uneducated. He lacks foresight and thrift and possesses a mentality that does not conduce to hopefulness in life. The result is that he takes life as it is and does not feel called upon to make any conscious effort to improve it in future. He is found to behave on the other hand a bit recklessly and squander away his resources at certain times and occasions. The agriculturist, for example, is generally criticised for spending extravagantly on marriage, birth or some other social and religious ceremonies. How far such expenditures can be regarded as a just cause for his indebtedness, is a question about which there exists no one opinion amongst the economists. The Deccan Riots Commission of 1875 clearly expressed its opinion against the view that expenditure on marriage and other festivals in any important factor in the piling up of rural debt. The Commission held "The expenditure on such occasions may undoubtedly be called extravagant when compared with the ryots' means, but the occasions occur seldom and probably in course of years the total sum spent in this way by any ryot is not larger than a man in his position is justified in spending on social and domestic pleasures. The expenditure by itself rarely appears as a nucleus of his indebtedness. The constantly recurring small items of debt for food and other necessities, for seed, for bullocks, for the Government assessment, do more to swell the indebtedness of the ryot than an occasional marriage. The Bengal Banking Enquiry Committee endorse this view.* Now in the first instance it is difficult to agree

* Jathar & Beri Vol 1. (1939 ed.) page 288.

to such a definite and sweeping observation as is expressed in the above words of the Deccan Commission. Our experience tells us that on occasions like marriage etc., the agriculturist spends money. It does not come out of his savings as he has none. He therefore borrows and the amount is always fairly heavy, say not less than a hundred rupees in any case generally. Thus it becomes crystal clear that such borrowings, whenever and by whosoever made, do become the cause of either aggravating his debt or forming a nucleus for it if there is none already existing. And there is no sense in making a distinction between an aggravating and an original cause. Thus it is established that expenditure on social, and religious ceremonies and festivals is definitely an important factor in the cultivator's indebtedness. But this does not necessarily follow that an admittance of such a cause also implies the view that condemns it. There may be expenditures, as there are undoubtedly, to meet which, incurring a debt also would be most justifiable. What is our view so far as this question goes? Do we justify the expenditure that the cultivator makes on such occasions? Now, every one must admit that life without enjoyment and pleasure is a burden and not worth living. Every one must have necessary facilities for domestic and social pleasures and recreation and money spent on them only a crank would regard as waste. The poor man who labours so hard without the hope of any adequate reward has perhaps greater claim to enjoyment than any one else can do. Then, the only question that remains is whether marriage etc., are the proper way of such an enjoyment? There is no doubt that celebration of a marriage or holding of a festival provides an occasion for merry-making and reasonable expenditure on them is justified. But it is also a fact that quite a good deal the cultivator spends not because he derives any pleasure from

doing so, but because social tradition constrains him to do so or because he finds some spiritual and religious solace in it. Money spent on the occasion of death or Shraddha comes in the latter category and quite a good deal of expenditure on marriage and other social festivals would come in the former. And to the extent such an expenditure becomes the cause of his indebtedness, it is not justifiable and must be avoided. So far as means of recreation and enjoyment are concerned, it is also important to remember that they need be replaced by better ones, one direction in which such an improvement is obvious is that occasions of enjoyment should not be few and far between but many and regular. Still so long as newer means of recreation are not found for the agriculturist and introduced, to suggest his deprivation of the age-long methods would be wrong and cruel.

The above discussion of the causes of India's rural indebtedness has made the whole position very clear. Both the objective as well as the subjective factors are responsible for it, the former, however, being not only much more important, but also to a very great extent being a cause of the latter. We shall now think over the question of how the problem of indebtedness can be solved and what measures would be necessary for the purpose. In this connection we shall, of course, have an occasion to review the various steps adopted so far in the matter.

A critical examination of the whole question would easily show that there are in altogether five important items that would go to constitute a full-fledged programme of solving the problem of rural indebtedness in India. They are: (1) Relieving the agriculturist of his present debts. (2) Setting up a sound system of rural finance so that his credit requirements may be conveniently and

reasonably met. (3) Protecting the person and the property of the debtor against exploitation by the creditor. (4) Developing the habits of thrift and saving in the agriculturist and educating him in the principles of sound and rational consumption. (5) And last but not least is increasing the agriculturist's income so that he may not only stand in need of incurring debts for his day to day requirements as is the case to-day, but may also save something in the form of reserve to meet abnormal demands of expenditure.

To start from the last item, we know that the problem of enhancing the present income of the cultivator is a very complicated one and calls for all the measures of agricultural reform such as increasing the present yield from the land, developing the existing facilities of marketing, and finding out suitable subsidiary industries which would give work to the cultivator in his spare time. To develop the habit of thrift, it is necessary to give education to the former and impress upon him the great need of keeping something in reserve for the rainy day. Spread of banking facilities in rural areas is also necessary for this purpose. To rescue the farmer from the tyranny of custom "Better living co-operative societies" found in the U.P. and the Punjab have done much useful work and should be established in other parts of the country also. (The agriculturists must rid themselves of false notions about standards of superiority and status, now current in them, and should develop habits of sound consumption and avoid those of extravagance and improvidence.) It must, however, be pointed out that increasing the income of the farmer is the first thing without which merely preaching of the advantages of thrift and saving would not bring any great practical result. Hence the dependence of one on the other is more than obvious. But

increasing the agriculturist's income or creating in him love for saving is not a job that can be done overnight. It is a question of several decades which requires a lot of patience, foresight and human ingenuity to solve it. There are other things, however, that require comparatively shorter period and we shall now devote our attention to them.

It was only in the early seventies of the last century that the Government of the country was impressed with the necessity of doing something to tackle this vast problem that concerned the prosperity and welfare of India's teeming millions. The agriculturist's riot in the Deccan in the last quarter of the 19th century forced the issue on public attention and the Government appointed the Deccan Riots Commission (1878) which examined the problem of rural debt also. The question came in for public discussion on several other occasions as well. The Famine Commissions of 1880 and 1901, the debates and dispatches relating to the Deccan Agriculturist's Relief Bill (1878), the Takkavi Loans Act (1882-3), the Agricultural Bank Scheme (1884), Nicholson's Report (1897), the Punjab Land Alienation Bill (1899) and the Co-operative Credit Societies Bill (1903)—all of them provided opportunities when public attention was attracted towards the whole issue and the result was the passage of a few legislative measures concerning the relief of the agriculturists' debt. These measures were, in some cases, of a mixed character and aimed at the three-fold objective of relieving the cultivator of his existing debt, improving the system of rural finance by controlling the operations of the money-lender and protecting the debtor and his property from exploitation by the creditor. In other cases, they were concerned with only any one or more of the above objects. Let us refer to some of them in brief.

The first set of laws passed tried to relieve the big landholders of their indebtedness and prevent their estates from being transferred to the money-lenders. Encumbered Estates Relief Act, 1876, Sind Encumbered Estates Act, 1896, Bundelkhand Encumbered Estates Act, 1903 and the Courts of Wards Acts in Madras and Bengal are instances in the point. According to the various Encumbered Estates Acts, managers were appointed to determine the liabilities of estate owners and do everything necessary by way of lease, mortgage or sale to pay off the creditors. Similarly the Courts of Wards were empowered to settle the debts of the estates of not only minors or females but also of other proprietors who may by application have their estates placed under their management.*

A very important piece of legislation passed in the year 1879 and further amended in the years 1882 and 1886 was the Deccan Agriculturists' Relief Act, based on the recommendations of the Deccan Riots Commission of 1878. The important provisions of the Act were about (i) the right of the courts to go behind the contract and investigate the whole history of the various transactions between the debtor and the creditor so as to modify them in favour of the former by reducing an oppressive rate of interest, preventing sale of land unless specifically pledged, and restoring the land to the cultivator even when there existed a sale deed between the two parties; (ii) the obligation on creditors to furnish accounts and grant receipts and require mortgages by agriculturists to be in writing; (iii) the extension of the period of limitation from three years to twelve in case of a registered deed and to six in others; (iv) provision of a special machinery to render cheap and summary justice to ryots and an insolvency procedure for them; and (v) provision for conciliating the

*Year-Book and Directory of Indian Co-operation (1942), pp. 45-46.

debts in the village courts. Regarding the working of the Act it should be admitted that it has failed to fulfil the great expectations that the sponsors of the Act had. On the other hand litigation has increased, relations between the agriculturist and the money-lender worsened, and whereas the former has sometimes abused the concessions given to him and tried to avoid even an honest repayment of his debts, the latter has also become more exacting and extortionate in his dealings. The Bombay Banking Enquiry Committee recommended the repeal of the old Act, and its replacement by a new one simpler in character and aiming to safeguard the interests of only small and genuine agriculturists.

The Land Improvements Loans Act of 1883 and the Agriculturists' Loans Act of 1884 were passed to provide credit to the cultivator either for the purpose of making permanent improvements in land as sinking of wells or fertilizing the soil, or for current agricultural requirements as purchase of cattle, implements, seed etc. These Acts have also proved not very helpful to the cultivator. The amounts of money lent are inadequate and the whole process involves a lot of unnecessary delay which is irritating and troublesome to the cultivator, and add to this the malpractices and illegitimate demands of the petty officials to fill their own pockets and you would be convinced of the futility of these Acts to give any relief to the poor farmer.

The Usurious Loans Act, as consolidated and amended in 1918, was another measure that was adopted to lighten the burden of the agriculturist by scaling down arrears of interest. The Act, which applies to both agriculturists and non-agriculturists, directed the courts of law, on their own motion, to reopen transactions in pending cases in which the courts held that the transactions were unfair and the

rate of interest excessive. It aims at determining the legal and maximum amount of interest recoverable, reducing the rate of interest chargeable and fixing a maximum rate. This Act also, however, proved a dead letter because of certain drawbacks from which it suffered. First, the courts were under no obligation to investigate into the fairness of the transactions of a case before them and in practice, therefore, being over-worked they rarely made use of it. Secondly there was no prescribed rate of interest in the Act itself and the courts found it very difficult to interpret the excessiveness and unfairness of the transactions in the suits before them. Then the debtor's ignorance of the law was also a handicap. In recent years the Act has been amended by nearly every province. We shall refer to it later on.

A very unhealthy development resulting from the growing indebtedness of the farmer was seen in the transference of land from the agriculturist borrower to non-agriculturist lender. Thus there emerged a whole class of non-agriculturist landowners. This was a politico-economic evil and had to be checked. It was with this objective, therefore, that Land Alienation Acts were passed in some provinces prohibiting the transference of land from the agriculturist class to the non-agriculturists one. The Punjab Alienation Act of 1901, the Bundelkhand Alienation Act of 1903, and the Central Provinces Alienation Act of 1916 were such measures. The ultimate object of these Acts was also to check the growth of peasants' indebtedness by reducing their credit and making it difficult for them to borrow on the security of their lands which could not be passed on to non-agriculturist money-lenders. But the emergence of a class of agriculturist money lenders on the one hand, and the use of *benami* transactions on the other defeated the above

purpose. The contraction of credit to the agriculturists, and restriction in the way of educated and enterprising persons living in cities and possessed with capital and intelligence to invest their savings in land so as to further agricultural progress are two other evils that have resulted from these Acts. On the whole, therefore, these Acts have not been successful. In the Punjab the Act has been modified recently about which a reference shall be made later on.

To protect the agriculturist and his property from undue encroachments, several changes were incorporated in the Code of Civil Procedure regarding execution of decrees against him. The agriculturist debtor is thus not liable to arrest on account of non-payment of debt which can be repayed in convenient instalments. Similarly, agricultural tools and implements, and cattle necessary for cultivation and materials of his house have also been exempted from attachment or sale.

The passing of the Co-operative Societies Act of 1904 and the establishment of co-operative credit societies in the country thereafter as well as the starting of land mortgage banks in different Provinces since 1920 were two other important steps taken to improve the conditions of both the short-term and the long-term credit for the cultivator. There can be no denying the fact that both the types of credit organisation mentioned above have given some relief to the poor agriculturist, but the fact that so far even the fringe of the problem has not been touched also remains unchallenged.

Thus as a result of our brief resume of the various efforts made upto the end of the twenties of this century to tackle the problem of rural indebtedness in the country, it is clear that none of them proved very successful and the poor farmer continued to groan under the ever-

growing weight of his debt as before without the hope of any substantial relief in the near future. The world economic depression that was set in motion after the Wall-Street Collapse in 1929 aggravated the situation still more. The fall in the prices of agricultural products adversely affected the economic position and consequently the repaying capacity of the agriculturist on the one hand, and the decline in the general level of prices increased the burden of his debts on the other. The money-lenders took resort to the courts of law and obtained decrees against their debtors and forced the sale of their lands. The disquieting prospect of a rapidly growing number of landless peasantry was in sight and the whole problem of rural indebtedness once more assumed a threatening proportion that called for an immediate solution to save the agriculturist class from wholesale liquidation. The Provincial Governments had to move in the matter and as a result an enormous amount of debt legislation during the decade 1930-40 was enacted to lessen the debt burden of the agriculturists. Let us then make a review of these various legislative measures passed during this decade.

The main objectives of the Provincial Debt Relief Legislation can be briefly classified under the following three heads:

- (a) Provision of relief to the cultivators by scaling down and lightening the crushing burden of the standing debt.
- (b) Regulation of the money lending business and creation of systematised rural financial agencies.
- (c) Provision of safeguards for the protection of the person and the property of the debtor against exploitation by the creditors*

*Provincial Debt Legislation in Relation to Rural Credit : N. G. Abhayankar-page 3.

So far as legislation concerning the last two objectives is concerned, we shall discuss it in our chapter on rural finance. At present we shall confine our observations only to the first objective of reducing the existing burden of debt on the agriculturist. To achieve this, three kinds of measures were passed.

(1) **Stay of Execution Proceedings** :—The importance of such measures in any scheme of giving relief to the cultivator in regard to his present debts is great. Because in their absence, the creditors, being frightened by the impending legislation to cut down the existing debts, would speed up the process of realising them and would obtain the wholesale execution of their decrees against the debtors by forcing the sale of their lands, houses, cattle etc. It is only in this way that the poor farmers can be saved from the danger of being sold up by their creditors for the recovery of their loans. Various provinces, therefore, passed laws ordering a stay of execution proceedings and thus preventing the sale of agriculturists' land and other property. The U.P. Temporary Regulation of Execution Act (1934) and the Bombay Smallholders Temporary Relief Act (1938) are two such instances in point. The C.P. Government passed a similar Act in 1938 and in 1937 the Congress Ministry in U.P. also provided for the postponement of proceedings against agriculturists who paid as land revenue less than Rs. 1,000 and who were not assessed to income-tax. Those whose land revenue payments exceeded Rs. 250 could get the benefit of the Act only on depositing one-fifth of the amounts for which decrees were executed. The Act also ordered the release of those agriculturists who had been imprisoned for non-payment of their debts. Lastly various Debt Relief Acts provided for the stay of execution proceedings against judgment debtors.

(2) Measures to reduce interest liabilities:—

To achieve this object three important steps were taken. Almost every province amended the Usurious Loans Act of 1918 so as to make it obligatory on the Courts of Law to reopen past transactions and to award interest calculated at the rates given in the Usurious Interest Rate Schedule. Thus the Act was amended by Bengal (1933), Assam, Central Provinces, the Punjab, and the United Provinces (1934); the North West Frontier Provinces (1935); Madras (1937); Bombay (1938) and Bihar (1938). In some province such as U.P., C.P., Bengal, Bombay, and Madras, special rate of interest were laid down for depression and pre-depression loans, that is loans contracted from 1930 to 1932 and before. Thus the United Provinces Agricultural Relief Act of 1934 provided that from 1st January, 1930 to a date fixed by the local Government, the rates of interest charged on loans can only exceed the rate at which the Local Government can borrow from the Central Government by a certain percentage prescribed by the Local Government. Similarly the Bombay Agricultural Debtor's Relief Act of 1939 laid down that the Debt Relief Boards were authorised to allow interest at 12 per cent. per annum, simple interest, on debts contracted before 1st January, 1931 and that the interest so calculated and found due on 1st January, 1931 was to be reduced by 40 per cent. in case the loan was taken before 1st January, 1931 and by 30 per cent. if it was contracted between 1st January, 1930 and 1st January, 1931. Interest was allowed at 9 per cent. per annum simple interest or agreed rate whichever is lower after 1st January, 1932 till the date of the application for relief. The Madras Agriculturists' Relief Act of 1938 contained very drastic provisions to reduce the burden of arrears of interest. The Act, for example, cancelled all interest on debts incurred by small agriculturists before 1932 and found outstanding on 1st

October, 1937. Interest at the rate of 5 per cent. per annum was allowed on past debts between October, 1937 and the date of the enactment of the Act, and any excess paid on account of interest was to be treated as a repayment of the principal. Courts of Law were directed to grant interest at a rate not higher than 6½ per cent. per annum, simple interest, on all transactions made after the commencement of the Act. The C.P. Reduction of Interest (1936) and the Relief of Indebtedness Act (1938) authorised the Debt Relief Courts to reopen all transactions made 12 years before the last transaction or before the 1st January, 1932, whichever is earlier, and allow rates to be calculated in accordance with the rates specified as under:

Compound interest	..	.. 5%
Simple interest		
Secured	..	.. 7%
Unsecured	..	.. 10%

The U.P. Agriculture Debt Redemption Act and the Bengal Money-lenders' Act of 1938 also contained provisions regarding interest rates both for secured as well as unsecured loans. Another method which the Provincial Governments adopted to reduce the payments in respect of accumulated interest was the inclusion of the rule of Damdupat in Money-lenders' Act. This rule was adopted by Bengal (1933); United Provinces, Central Provinces, Punjab, and Assam (1934); Madras and Bihar (1938) and Bombay and Sind (1939). While most of the provinces applied the rule of Damdupat to arrears of interest only, some provinces like Madras, definitely laid down that no court shall award by way of total repayment a sum which was greater than twice the principal of the loan.

(3) Measures to provide relief regarding principal of the loans :—In this connection we shall be

concerned with debt conciliation machinery, compulsory scaling down of debts and certain other miscellaneous measures.

To take up the question of Debt Conciliation first. The Central Banking Enquiry Committee very strongly recommended the adoption of the method of voluntary debt conciliation to reduce the burden of debt on the agriculturist class. The Government of the Central Provinces and Berar gave the lead in the matter by enacting a Debt Conciliation Act in 1933. A few other Provinces have also followed its example. Thus the Punjab Relief of Indebtedness Act of 1934 authorised the establishment of Debt Conciliation Boards, the Bengal Agricultural Debtors' Act in 1935 also made a similar provision, and Madras and Assam also passed Debt Conciliation Acts in 1936.

All these Acts provide for the setting up of what are known as Debt Conciliation Boards consisting of not more than twelve and not less than three members. Besides including the representatives of creditors and the debtors class, the Boards also have official members, and the chairman is also an executive or judicial officer. In some provinces it is laid down that debtors owing only up to a particular maximum amount can take advantage of the conciliation machinery. For example in Central Provinces only debtors who do not owe more than Rs. 25,000 may apply to the Debt Conciliation Boards. In the Punjab the maximum limit fixed is Rs. 10,000 and in Madras the minimum is Rs. 100 and the maximum is Rs. 25,000. Same sort of special treatment is accorded to debts owed to co-operative societies. Thus in C.P. and Madras previous approval of the Registrar of co-operative societies is necessary before they can be included within the scope of Conciliation Boards. In the Punjab they are

altogether excluded. Total exclusion is not good, though so far as the degree of conciliation is concerned some discrimination may be made in their favour.

The procedure adopted for the purpose of conciliation is simple. A debtor or any of his creditors may apply for settlement to the Board which thereupon would require the debtor and his creditors to submit their total assets on the one hand and their total claims on the other. Claims either not submitted or not substantiated by documents are held to be inadmissible in future. The Board then proceeds to adjust the total dues owed to the creditors who are agreeable to an amicable settlement of their claims to total assets. The Board has no powers of compulsion to affect a settlement and it is not necessary for either a debtor or any of his creditors to agree. On a settlement being reached, it is reduced to writing and registered under the Indian Registration Act, and takes effect as a decree of the civil court. However, in some Provinces it is laid down that a certain percentage of total debts, for example 40 per cent. in C.P. and Assam and 50 per cent. in Madras, must be involved in the agreed settlement before it can be reduced to writing and registered, in others no such minimum is fixed and settlement between a debtor and any one of his creditors may also be reduced to writing and registered. The settled amount is to be repaid in convenient instalments which generally do not exceed 20 or 25 in number. To induce all the creditors to accept the fair offer of settlement, an indirect method is adopted. The debtor is given a certificate by the Board in regard to such unsettled debts, in case the creditors to whom those debts are owed have refused what in the opinion of the Board was a reasonable deal. These creditors, then, are put under certain disabilities, such as the courts of law are authorised to disallow costs in their cases, to

award interest at a rate higher than 6 per cent. in any subsequent legal proceedings brought forward by the creditor for the recovery of the debts to which the certificate related, and their recovery is postponed till the settled debts have not been repayed. In the Punjab, for the grant of such a certificate, it is necessary that at least 40 per cent. of the total debts have been settled, and in Madras the percentage is 50.

The crux of the problem, however, in connection with the successful working of the conciliation machinery is about the repayment of the settled amount of the loans by the debtor. It is highly necessary that the creditor must be guaranteed the repayment of the reduced liabilities punctually. In some cases the lump sum of the agreed debt may be paid by the cultivator by the sale of his wife's ornaments or some other property but generally such a course is out of question. Instalments would have to be fixed, but even their punctual payment is sometimes a matter of doubt. It may be so because of the cultivator's genuine difficulty or his desire to evade payments may also be a cause. It is suggested that land mortgage banks should take up the responsibility of repayment on the security of land belonging to the debtor who thus may become a member-borrower of the said land mortgage bank. The suggestion is no doubt very useful and in provinces like the Punjab, Madras and a few others land mortgage banks have done some good work in this field. But those debtors who have no rights to land would remain out of this arrangement, this is one handicap. Another more important and basic difficulty in case of Debt Conciliation is that those debtors, whose financial position is so bad that repayment of any amount is out of question for them, cannot derive any benefit from such a scheme of conciliation. In spite of these limitations, we have to admit that

it is one method of tackling the problem of rural indebtedness of our country, and it has been adopted with a fair measure of success in Provinces like the Punjab, C.P. and to some extent Bengal also.

As a result of the working of Conciliation Boards, it is being, however, increasingly realized that the progress achieved through voluntary method has been very slow. Speed is an important consideration in such matters and hence compulsory scaling down of the Principal of the debts must replace the voluntary system. Accordingly various provinces have passed legislative measures in this connection and it would be useful to make a brief review of them at this juncture.

The Bombay Agricultural Debtor's Relief Act (1939) provides for a 40 per cent. reduction of the principal amount of the loan found due on the 1st January, 1931 if the loan is contracted before 1st January, 1931 and for a 30 per cent. reduction if the loan is contracted between 1st January, 1930 and 1st January, 1931. This reduction is to be affected by Debt Relief Boards in the course of examining the past transactions of the debtors who apply for relief. The Act also lays down as to how the repaying capacity of a debtor is to be calculated by the Debt Adjustment Boards, to be appointed by the Government, which are then empowered to scale down the principal to 80 per cent. of the repaying capacity so determined. Another important feature of the Act is the provision to transfer the decretal amounts to Land-Mortgage Banks, payable through instalments, by the debtors, provided the creditors agree to scale down their debts to 50 per cent of the value of the assets of the debtors. A debtor whose assets are inadequate for payment of the scaled-down amount can be declared insolvent by the Board.

The C.P. Relief of Indebtedness Act of 1939 replaces the debt conciliation machinery set up under the 1933 Act by Debt Relief Courts which are authorised to scale down the principal amounts of the loans according to the following schedule :—

- (a) Debts incurred prior to 31st December, 1935 to be reduced by 30 per cent.
- (b) Debts incurred after 31st December, 1925 but before 31st December, 1929 by 20 per cent.
- (c) Debts incurred after 31st December, 1929 but before 31st December, 1931 by 15 per cent.

Similarly in the U.P. Legislature, a bill (the U.P. Agriculturists and Workmen's Debt Redemption Bill) was introduced in 1939 which authorises the Courts of Law to award by way of principal amount due a sum not exceeding twice the amount of the principal minus all the payments received by the creditor in the past in respect of the said transactions.

In addition to the above two methods of scaling down the interest arrears and the principal of the loans, the Provincial Governments have also enacted a number of miscellaneous measures to give relief to the agriculturist debtors in respect of their debts. For example in provinces like the Punjab, U.P. and Bengal laws have been passed according to the recommendation of the Agricultural Commission to prohibit mortgage deeds containing the conditions for the sale of the mortgaged land and to limit the term of the mortgage to a period of 15 to 20 years. After this period the land would be restored to the debtor irrespective of the consideration whether the creditor has received full payment of his loan or not. A few other provincial enactments fix a fair sale price of land when it

is sold in enforcement of decrees against the agriculturist debtors. Then in some provinces amendments to the Provincial Insolvency Act of 1920 have been made in order to give relief to debtors who are unable to repay their total debts. For example, under the Bengal Agricultural Debtors Act (1935), whenever a Conciliation Board comes to the conclusion that a debtor cannot pay even the scaled down debts within a period of twenty years, he may be deemed as insolvent and his property, with certain exceptions as a dwelling house, may be sold to meet the claims of his creditors.

This then is a succinct account of the different legislative measures adopted by different British Indian Provinces to solve the problem of agricultural indebtedness in the country. Some Indian states like Mysore, Travancore and Bhavnagar, have also taken steps towards conciliation of debts. But the success achieved in the small state of Bhavnagar has been most remarkable. At the initiative of the State and its able Prime Minister, the late Sir Prabha Shankar Pattani, an order was issued to all the creditors to submit their statements of agriculturists' debts to the state within a fixed time, failing which the debts were to be declared as discharged. When the State formed a definite idea about the total agricultural debt of the whole population, it made a proposal to the creditors according to which they were to be paid in lump sum approximately 25 per cent. of the total amount from the State treasury (Rs. 20,59,473) in full discharge of their claims. First the Salukars hesitated, but when they got convinced of the State's determination to free the agriculturists from their debts and also realised that in the absence of a mutual settlement the State would enact a law that would make the realisation of debts very difficult, they gave in. Thus the cultivators were set free from the clutches of the

Mahajans and in order to protect them from falling into debts again a law was passed that restricted their credit very much. At the same time the State took lead in the matter of providing sound and adequate credit to the agriculturist by means of granting Taqavi and organising co-operative societies. The lump amount which the State paid to the Mahajans on behalf of the agriculturists is to be repaid to the State in easy instalment. The total effect of thus relieving the overburdened farmer has been very wholesome. He has begun to breathe in a freer atmosphere and his whole outlook has changed for the better. To-day he is found much more inclined to reform his methods of agricultural practice and is more enthusiastic and optimistic about his future life. This shows the great importance that rural indebtedness occupies in the rehabilitation of our agricultural economy. It is a fact that what was possible for a small State cannot be blindly followed in British India where so many complexities of the situation, besides its vastness, exist. Still no body can deny that Bhavnagar has shown the way and if India has really to solve the problem of her agricultural debt some drastic remedy shall have to be applied.

To sum up our conclusions, then, certain things are quite clear. First, the whole problem of our rural debt is beset with a number of complexities and no one-sided solution of it can prove effective. If on the one hand such long-range programmes as improving the income of the agriculturist, developing in him the habit of thrift and saving, and organising the whole system of rural finance with necessary provision to protect his person and property against exploitation are essential, on the other as a condition as well as a supplement to their success, he somehow has to be relieved of his present burden. Secondly here also we shall have to make a distinction between the agri-

culturists who have more or less a repaying capacity and the agriculturists who possess none of the kind. The measures to be adopted in one case are bound to be different from those to be found necessary in the other. Conciliation of debts of the voluntary or the compulsory type would solve the problem of only those who have the capacity to repay the scaled-down amounts. The setting up of a suitable machinery which can take up the work of lump sum payments to the creditors with provision for repayment in instalments by the agriculturists is an essential condition of success. Establishment of land mortgage banks would be of much help in this connection. But a more revolutionary and speedy remedy may also be suggested. The State may take upon itself the task of paying off the creditors and may arrange to get the money back from the debtors in convenient instalments. For this purpose the State may either raise loans from the public or issue Bonds to the creditors carrying a reasonable rate of interest with the condition that they may be redeemed at the option of the State. It goes without saying that only a State with the real welfare of the masses at heart can think of taking any such bold step in the matter. Those persons, however, who are unable to repay their debts at any cost should be relieved of their burden by giving them the protection of a Rural Insolvency Act according to which all that the agriculturist has, except his agricultural implements, cattle, seed and means for subsistence for a period of say six months, may be sold off and the proceeds may be distributed amongst his creditors in a fair proportion. The Agricultural Commission had also recommended such a measure to solve the problem of ancestral debt and in certain provinces such facilities have also been given. But there is need for improvement in order to make them really useful for the poor agriculturists who cannot

face the Sahukar squarely through the existing expensive machinery of law courts. Lastly, if the problem is really to be solved the State would have to take a leading and more active part in the matter and many out of place dogmas as that relating to the sanctity of contracts and too much consideration for the vested interests of the lending class would have to be given an easy go by. Without a bold, clear-cut, and nation-wide programme undertaken under the close guidance and with the full sanction of the State no substantial progress would be possible in this respect. Our experience so far has confirmed the view that half-hearted and partial measures are bound to fail.

CHAPTER XIII.

AGRICULTURE-FINANCE.

One of the many problems that calls for an immediate solution for the development of our agricultural economy is that of credit and finance. It is a well established fact known to all students of economics that without a sound system of rural finance functioning in our country, all reforms aiming at the progress of Indian agriculture are bound to prove abortive. Because finance occupies a strategic importance in the production-organisation of our times to a much greater extent than ever before, and agriculture certainly is no exception to it. The problems of agricultural finance, however, are a bit different from and more complicated than that of the industrial one and it would be conducive to clarity of thought to understand the nature of these differences and complexities a bit in detail.

Agriculture is largely a one-man's business, whereas in manufacturing industry, after the development of joint-stock enterprise, the responsibility is shouldered by a number of persons. So far as the question of credit is concerned this makes a lot of difference. In one case the amount of credit available is determined by the credit worthiness of only one man, while in the other case it depends upon the financial standing of many. Then, the nature of agricultural business is much more risky and uncertain. This for a number of reasons. The rôle that nature plays is more predominant here than in industry. The agriculturist as a class is much less organised and his capacity to face the changing conditions of the market is highly limited. Thus he suffers on account of them more than does an industrialist. This also makes the

business of financing him a more difficult one. The security that a cultivator can offer to his financing agency is land. It is, however, not a suitable form of security for a modern bank doing short-term business. The valuation of land is not an easy job. It requires the aid of expert advice that would not be available to every bank. Further, disposal of land is also a difficult matter. Hence land as a form of security is not convenient. And add to the above difficulties of agricultural finance more or less common to all countries, those that are special to India, and we shall find the whole task quite a stupendous one. The depth of illiteracy in which our rural population is at present sunk, the highly unprofitable nature of our agriculture that has reduced the rural population to almost a state of bankruptcy, their ignorance of market conditions and lack of any efficient marketing organisation and above all the present burden of indebtedness under which an Indian farmer groans—these are factors that make the problem of agricultural finance in India all the more complicated and difficult of solution. But still a solution has to be sought for, if our teeming millions are to rise above their present condition of economic destitution so essential for the development of their full self. Let us, however, first discuss the different kinds of financial requirements that an agriculturist experiences and the existing sources from which they are being met.

The credit needs of the agriculturist are broadly classified under three main heads: Short term, intermediate and long-term. Short-term credit is necessary to help the cultivator to tide over the period of waiting before his labours bear fruit in the shape of harvests which are to be marketed. During this period of about nine months or so he requires finances to maintain himself and members of his family, to meet the current expenses of cultivation such as cost

of seeds, cost of labour, payment of land revenue, or rent and interest on short-term capital. A successful cultivator always hopes to repay the sum required for the above objects at the end of the harvest season when his crops are sold and the main security that he can offer for such short-term credit is the average value of the crop he expects to produce during a particular year.

The agriculturist also needs money to purchase cattle, or implements or to bring about other usual improvements in the land. This money he is not in a position to repay within one harvest-time but requires for a longer period of say two to five years. The security he can offer for these loans is his movable wealth in the form of ornaments or existing cattle or his crops.

Lastly the cultivator requires long-term finance repayable within a period of 25 to 30 years and in some cases even of 60 years. The money is required either for the purpose of paying past debts, or affecting permanent improvements in land as consolidation of holdings, or purchase of new lands. The security for such long-term finance is the land of the agriculturist. These long-period loans should generally be repayable from the margin of profit of the borrower's holdings and, therefore, the instalments are spread over a number of years.

Besides the above kinds of credit-needs of an agriculturist for productive purposes, he also takes loans for *unproductive purposes* such as the performance of a marriage or any other social or religious function. The loans are obtained both for the short as well as long term, though the latter are more common.

The present position of agricultural finance in our country is far from satisfactory. Before we discuss the question of its improvement, it is, however, necessary to

briefly review the various sources from which agricultural credit is supplied to-day. The existing agencies of agricultural finance may be grouped under the following broad headings :

- (i) Indigenous bankers
- (ii) Money lenders
- (iii) Co-operative societies
- (iv) Land mortgage banks
- (v) Commercial banks
- (vi) Loan offices in Bengal
- (vii) Nidhis and Chit Funds in Madras
- (viii) Government.

So far as indigenous bankers are concerned, we have examined their present working and lines of future development in our Chapter on Banking and any repetition here would be superfluous. They generally do not finance the agriculturist class directly and their greatest problem is that of linking them to the modern money-market in the country.

Money lenders, as distinguished from indigenous bankers, still constitute the most important agency of rural finance. It is they who come in direct contact with the poor cultivator, meet his demands for both short as well as long-term finance and thus occupy a position of great strategic importance in the financial organisation of our country.

The Central Banking Enquiry Committee thought it fit to differentiate money-lenders from indigenous bankers on several grounds. For example money-lenders' source of capital is mostly their own resources rather than deposits, they are not very particular about security and its form, nor they care for the purpose for which loan is being advanced. They do not hesitate in financing the unpro-

ductive needs of the agriculturist, do not insist on punctual repayment and their rates of interest are generally higher. It is to be remembered, however, that the dividing line between the two is in many cases very thin.

We have professional money-lenders like the notorious village 'bania' or mahajan as well as several non-professionals coming from different sections of our society. Any person having surplus funds, and necessary inclination, aptitude and opportunity may take to the business of money lending. The class of itinerant (travelling) money-lenders, as the Pathan or the Kabli, is well-known for its extortion and physical intimidation to its clients which come from both the rural as well as the city population, mainly from the class of factory workers in cities. Money-lenders are found not only in villages but also in urban centres.

Short-period loans are advanced by them generally on the basis of personal security on the condition that the crops when harvested would be sold to him. The poor cultivator is thus deprived of a fair price and his loss is great. For large and long-term loans, however, security is taken in form of land, ornaments, houses etc. Regarding payment, they are more particular about interest than the principal, as paying of the principal means losing a client and source of future exploitation.

The money lenders are generally condemned, and no doubt rightly to a great extent, for a number of mal-practices they adopt in the course of their money lending business for increasing their profits. Taking of advance-interests, forcing signature or thumb-impression of the illiterate cultivator on blank papers, receiving present for opening business with a particular customer, exacting free service from debtors and reducing them to the status of serfs, and keeping of no regular accounts are some of the cases in point. Charging high rates of interest is also

an evil that is so common. Their monopolistic position, the risk involved in their business and its expensive nature, inadequate capital, and above all the borrower's ignorance and helplessness—these are the various factors that explain if not justify the prevailing high rates of interest in our rural areas.

Recently money-lenders have been on a decline. The establishment of co-operative societies, the enactment of various legislative measures to protect the borrower, and the depression in trade are some important causes of this decline. In the existing condition of rural finance, a realistic approach to the problem would lead us to the conclusion that we cannot altogether dispense with money-lenders as an agency of rural finance, as alternative institutions to take up their work cannot be set up easily and immediately. Hence the real problem so far as money-lenders go is that of reforming their existing business practices, and of integrating them in a well-knit, sound, and scientific system of rural finance. This aspect of the question would receive our attention when we would discuss the problem of reorganisation of our agricultural finance.

Of other agencies of rural credit, co-operative societies including the co-operative land mortgage banks, a recent development, in our credit organisation, are more important. A full chapter on co-operation has been devoted to their discussion, and the arguments and conclusions thereof need not be repeated here. So far as joint-stock land mortgage banks are concerned, all that we need say is that they are useful to provide long-term finance for larger landowners and others who remain outside the co-operative movement. In several countries such as France, Japan, England, Egypt, Ireland they have proved quite successful. The Government should

encourage their establishment by guaranteeing interest on debentures as well as subscribing to them. Experienced land revenue officers should be appointed on the Boards of these banks to help in the work of land valuation and in judging the repaying capacity of the borrowers. Regarding the terms and conditions of loans there need be no difference between them and the co-operative land mortgage banks.

The part played by the commercial banks, in which term are included besides the Indian joint-stock banks, the Imperial Bank of India and the Foreign Exchange Banks also, in the financing of our agriculture is not very important. Only a few banks grant advances to landlords and to the more substantial cultivators on personal security with sureties or on the security of produce or of gold. Others finance agriculture in an indirect way by lending to traders who give advances to small village dealers.* To an extent commercial banks take part in meeting the credit needs of the agriculturists through co-operative banks also, but even in this way the amount of credit supplied is very little.

Coming to other institutions of rural credit, we find that in the province of Bengal Loan offices occupy quite an important place. They have an intermediate position between indigenous bankers on the one hand and the modern joint-stock banks on the other. They are registered under the Indian Companies Act, and depend for their capital resources mostly on deposits that are received for a term varying from short periods to a maximum of 5 to 7 years.

The loan offices, like money-lenders, combine trade and banking and lend money to Zamindars and their tenant-cultivators on the security of land, ornaments

*Problems of Agricultural Credit in India : B. B. Ghosh. pp.22.

or on personal security and often for unproductive purposes also. The present position of these offices is not very satisfactory and needs to be improved.

Nidhis and Chit Funds of Madras as organisations of rural finance also merit our attention a little. The former (Nidhis) were originally started as mutual loan societies in the middle of the last century, but in the course of time they have developed into semi-banking institutions. They are all registered under the Indian Companies Act and possess withdrawable share-capital and also receive deposits. Their main business is to promote thrift, relieve members of their old debts, save them from usury and grant loans for all purposes on good security. Their rates of interest are not high. Though some of them are very well managed, there are others which suffer from defective management.

Chit Funds are loose organisation of a small number of persons to promote saving and lend money to members. Their number runs to several thousands. A number of persons agree to make periodical payments to one of themselves by rotation who manages the funds. Some of the funds are well-managed, but in other cases there is mismanagement also.

The last agency that remains for our consideration in the matter of agricultural finance is that of the Government. In the very nature of things, we cannot expect much from Government so far as the question of giving direct financial aid to the agriculturist-class is concerned. Still under the Takkavi Acts passed in the years 1871, 1876, and 1879, Takkavi loans are granted by the Government to the cultivating class. Small amounts only for specific purposes, rigidity in the matter of collection, and exactions of the petty official have made these loans unpopular.

Reference has already been made in the chapter on Agricultural Indebtedness to the Land Improvements Loans Act (1883) and the Agriculturists' Loans Act (1884) and the fact of their not proving very helpful to the farmer. A fundamental defect of the Land Improvements Loans Act is that no loans can be granted under it to pay off old debts or for consolidation of holdings. Under the amending Acts passed in Madras (1935) and the United Provinces (1934), however, loans for redemption of past debts have been made permissible. The Government purchases of the debentures of land-mortgage banks and loans to co-operative societies are also other ways in which the Government comes to the help of the agriculturist in the matter of providing him some credit.

The above brief survey of the working of various institutions of rural credit more than clearly point out their present unsatisfactory nature. Broadly speaking our existing system of rural finance suffers from the following main defects: First, in many cases, there exists no clear-cut division of functions between them regarding the short period, intermediate and long term finances which is an essential feature of any rational and sound system of agricultural credit machinery. Secondly, the different agencies, as amongst themselves, do not stand in a co-ordinated relationship, and the contact between the modern organised money market on the one hand and such important agencies of agricultural credit as money-lenders, indigenous bankers and even co-operative societies and banks on the other is not systematised and regular. This lack of co-ordination is responsible for maladjustment between demand and supply of credit not only between different times but also between different places thus resulting in lack of uniformity in interest rates. Therefore any attempt at the reorganisation of agricultural credit must aim at the total

elimination of these evils. We shall now discuss this problem of reorganising our rural finance on sound and scientific lines.

The first important point to be emphasised in this connection is that of separating short-term and intermediate credit from the long term credit. This is necessary because the nature of the two types is different from each other. So far as short-term and intermediate credit is concerned, it is possible to combine them but long period finance must be independently organised. In case of short-term and intermediate loans, the period for which they would be granted would range between say one and two or three years at the most. Such loans, therefore, can be easily advanced out of short-term deposits and subscribed capital if any. But long-term credit has to be given for at least twenty-five to thirty years and in some cases even for a still longer period. This can be safely done only out of long-period deposits and funds raised by means of issuing debentures. The type of security in case of short-term loans would also be different from that suited to long-term loans. Movable property such as ornaments, crops, cattle etc. and personal security are the suitable forms of security for short-term loans, whereas land should be reserved as security for long-term credit only. The purposes of the loans as well as the amount of risk involved are also different in both the cases, and this makes the technique of business followed in one type of credit organisation unsuited to another. Hence our conclusion that short-term and intermediate credit should be separately organised from the long-period one is sound and scientific and is in perfect keeping with the practice followed in other civilized countries of the world.

The next question that faces us is regarding the agencies that should specialise in one form of credit or another.

Of the different agencies of rural finance to which a reference has already been made above, we can say that co-operative credit societies, money-lenders, indigenous bankers, and commercial banks should confine themselves to short-term and intermediate finance as the most important sources of their capital is short-term deposits. If money-lenders and indigenous bankers also take part in the financing of long-period requirements of the agriculturist, they may continue to do so, but they should be compelled to keep the two types of business independent of each other and maintain separate accounts. For providing the long-term finance co-operative land mortgage banks are the most suitable machinery. To meet the long-term credit requirements of big landlords and others who would not come in the fold of co-operative organisation, land mortgage banks on joint-stock principle should be established. The Loan offices in Bengal would also serve the same purpose. So far as the Government is concerned, in all modern countries like Britain, United States of America, Australia New Zealand etc., it has played a very important part directly as well as indirectly helping and encouraging the credit institutions engaged in the task of providing long-term finance to the cultivator-class. The same thing must hold true in case of India also. As pointed out earlier, we certainly cannot expect the State, either by the short-period Takkavi loans or advancing money for longer period, to do anything substantial in the matter of solving the stupendous task of agricultural finance in our country. Something, however, can be done if the system of granting Takkavi and other loans is improved.

We have discussed on what lines the division of work regarding the provision of credit should be made between the various agencies of agricultural finance working in our country at present. We shall now suggest

the necessary reforms in their respective workings and the extent to which they have already been carried out. In this chapter our attention shall be confined to only a few of them, as some like indigenous bankers, and co-operative institutions including the co-operative land mortgage banks have been dealt with in their respective chapters.

To take the question of money-lenders first. It is a fact that an objective study of our rural financial organisation would convince us that we cannot dispense with the class of money-lenders at any cost. Besides the insoluble difficulty of replacing them by any other agency, co-operative or otherwise, we have also to admit that their long experience and close acquaintance with the condition of the peasantry have equipped them with certain advantages in their favour; and it would be the height of foolishness to advocate their total extinction. The real problem is, therefore, to reform them and integrate them in a well-knit, sound, rational and, therefore, scientific system of rural finance.

If we critically examine the defects from which money lending operations generally suffer, we shall find that the whole problem of reforming them resolves into three important parts: (1) Registration and licensing of money-lenders; (2) Regulation of accounts; and (3) Regulation of interest. Much legislation has been enacted, specially during the last one decade, to regulate the business of money lending in all these respects and it would be useful to make a brief review of them at this juncture. We have already referred to the Usurious Loans Act of 1918 in our Chapter on rural indebtedness and the drawbacks noticed in its working. The Deccan Agriculturists' Relief Act, and the different Land Alienation Acts passed in some provinces are other measures, passed before the last

decade (before 1930), which attempted to regulate money lending in our country. But, as noticed earlier, for different reasons the success they achieved was very insignificant. In the meanwhile the world trade depression of 1929 began and made the position of the agricultural debtors very unhappy. Naturally the Government had to take notice of this worsening situation of the primary producers of the country, as they are the very backbone of our whole national economy, and various legislative measures were adopted in different provinces to remedy the whole position. We shall discuss them under the above three well-defined headings.

The question of registration and licensing of money-lenders came for a thorough examination at the hands of the various Provincial Banking Enquiry Committees and the Central Banking Enquiry Committee. Different view-points were expressed by different committees, some favouring compulsory registration, others only voluntary and a few no registration at all. The main argument against licensing was that money-lenders as a class would not welcome it and it would result in further embittering the relations between the debtors and the creditors. But the public opinion in the country has veered round in favour of compulsory registration and various provinces, accordingly, have passed Money-lenders' Acts embodying provisions for compulsory registration and licensing of money-lenders. Usually, the money-lender is defined as "a person who advances loans as a matter of business." The C.P. Money-lenders Amendment Act (1936), The Punjab Registration of Money-lenders Act (1938), The Bihar Money-lenders' Act (1938), The Bengal Money-lenders' Bill (1938), The U.P. Money-lenders' Bill (1939), and the Bombay Money-lenders' Bill (1938) are all instances in the point all these

measures provide for the compulsory registration and licensing of money-lenders and those of them who do not possess the necessary license are made liable to some sort of punishment which may take the form of either a fine or non-suiting the money-lender or both as in the case of Bengal. In the U.P. Bill, besides these two forms of punishment, further penalties are provided in the shape of disqualifying a money-lender as well as of providing for a procedure by which private individuals can complain to the authorities against the evil practices of money-lenders. These complaints would be, however, investigated only on the deposit of a prescribed sum in the court of law.* Provision is also made for the cancelling of licenses under certain conditions, such as dishonesty on the part of the money-lender.

Coming to the question of regulation of accounts, the Punjab Regulation of Accounts Act, 1930, was the first measure of its kind. It made maintenance of separate accounts for all the debtors and furnishing them with half-yearly statements of account showing outstanding loans and all transactions relating thereto, compulsory. In these statements it was also necessary to show the principal of the loan separately from interest. Failure to keep accounts or supply half-yearly statements might be punished by disallowing interest by the court. In this Act, however, there was no provision to compel the creditor to grant receipts to the debtor. More stringent provisions regarding the keeping of accounts, supplying of half-yearly or yearly statements of accounts showing the outstanding amount of principal and interest, and the amount of every payment received from the debtor, and giving of receipts for every repayment have been incorporated in C.P., Madras, and Assam (1934), Bengal (1933), Bengal

*Provincial Debt Legislation: Abhayankar.

Bill (1938), U.P. Bill (1939) and Bombay Bill (1939). The non-compliance of any or all of the above provisions is to be punished by disallowing costs and interest dues during the period of default by courts in pending suits for the recovery of money. These penalties, however, may not prove preventive. Non-suiting the creditor, therefore, may be an effective substitute.

The third important thing is about the regulation of interest-rates. To successfully prevent the charging of usurious rates of interest by money-lenders, different provinces amended the Usurious Loans Act of 1918 so as to make it incumbent on the Courts of Law to reopen past transactions and to grant interest at prescribed rates mentioned in the Usurious Interest Rate Schedule. The above Act was amended by Bengal (1933); Assam, C.P., the Punjab, and the U.P. (1934); the N.-W.F.P. (1935); Madras (1937); and Bombay and Bihar (1938). But subsequent enactments have further reduced these rates. They prescribe maximum rates of interest, distinction being made between secured and unsecured loans. Compound interest is prohibited in Bihar, Assam etc. The method adopted by the United Provinces in the matter of interest is different from that in other provinces and possesses the quality of elasticity. The Government would from time to time notify the interest allowed in consonance with the conditions of the money market in relation to loans incurred prior to the Agriculturists' Relief Act of 1934. On loans subsequent there to the rate of interest varies according to the amount of the loan, being lower as the amount, is larger. Some of the Provinces, like Assam, Bihar, U.P., Bombay and Bengal, have made it an offence punishable by fine or imprisonment or dismissal of the suit to enter fictitious amount in excess of the actual loan in the documents. Thus circumvention of Usurious Rates Sche-

dule can be prevented. Regarding the regulation of interest, it is, however, to be remembered that its enforcement in practice becomes difficult if the needy debtor is prepared to pay a higher rate or the creditor finds the prescribed rate uneconomic. The supply of regular and adequate credit, is therefore the only effective and ultimate remedy for keeping interest rates at a fair level.

Another important requisite of a sound system of rural finance is about the protection of the person and property of the debtor against exploitation from the creditor. We have already referred to the various land Alienation Acts enacted in some provinces and to the fact that the emergence of a class of agriculturist money-lenders on the one hand and the use of benami transactions on the other have to a great extent defeated the objective of the above legislations. To recent amendments of the Punjab Land Alienation Act, however, deserve notice in this connection. One of them declares illegal all benami transactions, while the other includes agriculturist money-lender also in the same category as the non-agriculturist. The Punjab Restitution of Mortgaged Lands Act, 1938, makes provision for the restitution of land mortgaged prior to 8th June, 1901 under certain conditions. Then, there are various miscellaneous measures adopted by different provinces with the above object. Some of them provide for the exemption of a given portion of the debtors property from attachment and sale, as the Bihar Money-lenders' Act, 1938* the U.P. Money-lenders' Bill (1939)†, the Punjab Debtors' Protection Act, 1935, the Bengal Debtors' Protection Act, 1936 and the Bombay Money-lenders' Bill of 1939. There are others which aim at the protection

*Under this Act one-third of the land is exempt from attachment and sale.

†Under this Bill more than one-fourth of the crop cannot be attached and sold.

of the debtor from intimidation and molestation, *e.g.*, the C.P. Debtor's Protection Act, 1937, the Bombay Money-lenders Bill, 1939, and the U.P. and Bengal Money-lenders Bill 1939, contained such provisions. These measures make intimidation or molestation of a debtor by a creditor for recovery of loans an offence punishable by imprisonment or fine. Another safeguard which has been adopted to protect the property of the debtor is the provision for converting mortgaged deeds into terminable usufructuary mortgage deeds, varying from 15 to 20 years. Thus the creditor cannot keep possession over the debtor's land for more than this prescribed period and is deprived from taking over 'saleable rights in the land.

A critical review of the working of the above legislative measures regulating the money-lending operations in various provinces has disclosed certain defects that must be remedied as early as possible. The existing penalty in form of fine or imprisonment provided in different Acts for non-observance of their provisions is not effective and something more drastic must be there. Non-suiting the money-lender as in the Punjab and Bihar Acts would serve the purpose better. Similarly, it is a great disadvantage that there is no similarity in the different provincial legislations; and therefore, the question of passing a uniform all-India money-lender's Act replacing the existing provincial ones, is worth considering. Another improvement necessary is the institution of a well-organised inspectorate to enforce the provisions regarding the maintenance of accounts etc. A fundamental objection to the provisions relating to terminable usufructuary mortgages is that they may hamper the passage of land from a less to a more efficient cultivator. This danger can be removed by making land as valid security only for loans from approved long-term financial institu-

tions* who may be given the right to sell it to anybody for purposes of cultivation. This coupled with the provision to leave substinence holding to the sold out debtor would serve both the purposes of making transfers from less to more efficient cultivators and at the same time preventing the emergence of a landless peasantry. Last but not the least important thing is to see that the piling up of all this legislation does not frighten the money-lender and there takes place no great shrinkage of credit as a result thereof. For this purpose it is necessary to educate the money-lenders regarding the real implications of the new legislation which, it should be explained, aims not only at protecting the debtor but also at adequately safeguarding their interests. Care should be taken that under the pretence of the legislative measures, the debtor's moral sense about the obligation to repay a lawfully contracted debt does not weaken. The money-lender must thus be assured the recovery of his loans and should be free of any sense of insecurity on that account. Similarly the maximum interest rate fixed by law should be sufficient to enable him to earn a legitimate profit. $6\frac{1}{4}\%$ interest provided in certain enactments is considered inadequate for example. In addition to all these steps to be taken in order to assure the honest money-lender a reasonable chance of carrying on his business profitably other steps should also be taken to expand the existing rural credit agencies. Co-operative Credit Societies should extend their activities as much as possible. Besides, every Provincial Government should organise in each Province some sort of a 'Provincial Agricultural Corporation.' The Corporation should raise its capital in the form of shares, and a part of it should be subscribed to by the Provincial Governments. Short term deposits from public may also be received. The main function

*This would also, assure to these institutions that land as a security is reserved for them and is not available for short-term finance institutions.

of the corporation would be to provide short-term finance to the agriculturist. It should have a number of branches spread over the whole of the province.

So far we have discussed the question of reorganising the money-lender's business, which occupies a place of Central importance in the rural credit organisation of our country. But, as we have already noticed, there are a few other agencies of rural credit also, and a word about their improvement would not be out of place.

For reforming the present activities of the loan offices of Bengal, the Central Banking Enquiry Committee recommended the passage of a separate Loan Offices Act which should prohibit combination of trading and banking, prescribe a minimum capital, and make rules about maintaining a Reserve Fund and paying of dividends so that the financial position of the offices may remain sound.

Similarly the committee had certain suggestions for the regulation of Nidhis and Chit Funds of Madras. The most important recommendation in this case was also relating to the passing of a separate Act which should prohibit combination of trade and banking by the same institution, and also provide for the maintenance of a properly prepared Balance Sheet and well-audited accounts. It was further suggested that promoters of Chit Funds should be licensed and possess some property qualifications. The central point behind all these suggestions is the same, regulating the operations and organisation of a credit agency so that it may function on sound principles of credit and banking and public money may be safeguarded and public confidence in such credit institutions be enhanced and vindicated.

Lastly a more liberal attitude on the part of the Commercial banks of the country, including the Reserve Bank

of India, towards the financing of Indian agriculture would also help to some extent the solution of our problem of rural finance. For example they might start by encouraging the system of advances against precious metals including ornaments and gradually expand it by granting crop or produce loans. They should also discount more liberally agricultural paper, and may also invest a limited portion of their funds in the debentures of the Land Mortgage Banks. It is, however, to be remembered that commercial banks should take a keen and active interest in rural finance only within limits of safety*. A closer link between the commercial banks on the one hand and the co-operative banks on the other would also prove of great benefit. Improved methods of marketing and the establishment of licensed warehouses would make it easier for the commercial banks to finance agriculture in India.

Under the Reserve Bank of India Act, 1934, the Reserve Bank is authorised to purchase, sell, and rediscount bills of exchange and promissory notes bearing the signature of a Provincial Co-operative Bank and drawn and issued for the purpose of financing agricultural operations on the marketing of crops and maturing within nine months from the date of such purchase or rediscount. But as the bill market in India is still in an undeveloped condition, this provision is not of much practical help to agriculture. The Reserve Bank is also authorised to make loans and advances to provincial co-operative banks repayable on demand or on the expiry of fixed periods not exceeding ninety days and on the security of their promissory notes backed by titles to goods pledged with such banks as security for a loan. Obviously these are facilities for short-term credit and it has been suggested by some that in order

*Joint-stock Banking in India : D. S. Savkar, pp. 186.

to extend them the Reserve Bank should be brought in direct link with not only Provincial Co-operative Banks but also with Central Banks. Similarly in the matter of purchase, sale and rediscount of bills of exchange and promissory notes either arising out of commercial and trade transactions or issued for the purpose of holding or trading in Government securities, the existing provisions of the Reserve Bank Act exclude the provincial co-operative banks from the scope of the Bank. This is a hindrance in the way of agricultural finance and ought to be removed. The central point to be emphasised in this connection is that the greater are the opportunities for the co-operative banks to come in contact with the Reserve Bank the better it is for agricultural finance, because co-operative banks are mostly engaged in the financing of this premier industry of our country.

The Reserve Bank of India can also do much useful work in the field of intermediate credit for the agriculturist. This would, however, require the reorganisation of its Agricultural Credit Department on the lines of the Rural Credit Department of the Commonwealth Bank of Australia. The Commonwealth Bank through its Rural Credit Department grants loans to co-operative associations and other prescribed bodies upon the security of primary produce or land for periods not exceeding a year. The Department gets financial aid from the Government of the country, and provision is also made for the issue of debentures by the Bank. A certain percentage of the profit of the Note Issue Department of the Bank was also paid to the Rural Credit Department for some time. The aim of the Department is not profit making. The Reserve Bank of India Act should also be so amended as to authorise the Bank through its Agricultural Credit Department to grant loans for periods of say not less than

nine months and more than three years for financing agriculture. Necessary funds should be made available by the Government in form of loans, by providing for the issue of debentures, by allotting a certain percentage of the profits of the Note Issue Department of the Bank and by giving facilities of getting advances from the Bank itself. No profit motive should be allowed in the working of the Credit Department and its funds should be strictly and watchfully used for the purpose of agricultural development only.

The foregoing remarks about the reorganisation of various agencies of agricultural finance on sound and scientific lines have clearly demonstrated the stupendous nature of the task. Its successful completion, so urgent for the development of our agricultural economy, would call for a country-wide co-ordinated and well-thought out plan in which the Government, the people, and the Central Banking authority of the country, all will have to join hands and share their respective responsibilities. Without such co-ordinated efforts no substantial results can be achieved.

CHAPTER XIV.

FAMINES.

India being a predominantly agricultural country has her own problems of unemployment to solve. The nature of unemployment in Agricultural country is of a different type than that of an industrial country. In the first place the vast majority of population depends upon agriculture and there is a seasonal unemployment in agriculture for 4 to 8 months in the year and we have discussed the question of subsidiary occupations to keep the former occupied in this period of enforced idleness in a separate chapter. But this is the normal unemployment and does not upset or dislocate the economic life of rural India very much. But a more serious aspect of the unemployment problem presents itself in the form of great scarcity or famine. Famine had been in the past, and is at present a prominent feature in the economic life of people in India. Famines were common formerly in other civilised countries of the world and are so even to-day in agricultural and industrially backward countries. But they are terrible in India and China due to the industrial backwardness of those countries and low resisting power of the population due to economic poverty. In India famines have been occurred with astonishing regularity in cycles of five years and greater ones in cycles of 50 years. These frequent famines have been mainly responsible for the fatalistic out-look of the Indian peasantry.

History of Famines in India :—Famines were not unknown in Ancient India. They are recorded from the very dawn of Indian History. In the "Jataka Books" they are referred to as one of the incidents of life in those

days. But little is known about them in pre-Moslem rule in India. Continuous history, and with it information about famines, begins with the advent of the Moslem Chroniclers. In times of Jallauddin Khilji, Mohammad Tughlak and in the year of Akbar's accession to throne famines have been recorded which were very severe and intense. Two more severe famines are recorded in Akbar's reign in 1583-84 and in 1895-1898. In 1630 a very severe famine occurred in Gujerat in the reign of Shahjahan and recorded in the Emperors Chronicles by Abdul Hamid Lahori in the following words "During the past year (1629) no rain had fallen in these territories and the drought had been specially severe. In the present year (1630) also there had been a deficiency in the bordering territory and a total want in Deccan and Gujerat. The inhabitants of these parts were reduced to the direst extremity. Life was offered for a loaf but none would buy, rank was to be sold for a cake, but none cared for it, the ever bounteous hand was now stretched out to beg for food. For a long time dogs flesh was sold for goats' flesh and pounded bones of the dead were mixed with flour and sold. Destitution at length reached such a pitch that men began to devour each other and the flesh of a son was preferred to his love. The numbers of dying caused obstructions in the roads and every man whose dire sufferings did not terminate in death and who retained the power to move, wandered off to the towns and villages of other parts. Pestilence followed famine and lakhs perished. No body cared to bury the dead. Loveday, Morison and Digby have given some very pathetic descriptions of these famines.

There were central granaries at the capitals which were originally maintained for war and military purposes but which in times of famines were used to feed the starving population. As communications were undeveloped the

surplus grain stored in the villages was expected to give relief rather than the stores of the Central and Provincial Governments. Thus if the famines lived for a short period the village surplus could tide over the period of scarcity. But if it persisted for long the only method to avoid it was to migrate to other areas free from famine. The rulers used to start public works construction like tanks, canals, roads, palaces, forts, temples and mosques which used to give employment and mitigate the distress. The rulers did realise their responsibility to give relief to their famine-stricken subjects.

Coming to the British period during the rule of East India Company (1760-1857) India suffered from 12 famines and 4 severe scarcities. To name only great and disastrous famines, we have a fairly full account of the Great Bengal Famine of 1769-70 in which according to the most trustworthy estimates one-third of the population died. We have also a full and horrible account of the terrible 'chalisa' which in 1783-1784 devastated the region between Bihar and Kashmir and transformed the face of the country like a great convulsion of nature. Millions perished in this great calamity and the suffering was still greater. The Doji Bara (or Skull Famine) which in 1790-92 littered Maharashtra with human skulls. Equally severe famines occurred in 1802, 1824, 1833 and 1837 in which a large mass of population lost its lives and there was unimaginable human-suffering.

Though the famines were more frequent, severe and devastating during the tenor of East India Company the Company criminally neglected its duty to protect human life. In fact the company did not care to bother itself about the matter. According to Loveday the company was more concerned with the dividends of its shareholders than the lives of those from whom those dividends were drawn.

Since the transfer of India to the crown in 1858 there have been a large number of severe scarcities and 12 important famines. In this period fall some great famines such as that of North-West India in 1860, of Orissa in 1865, of Rajputana in 1868, of Bihar in 1873, of South India in 1876 and the two All-India famines of 1896 and 1899-1900. The famine which brought misery to millions in Madras, Bombay, C.P. and Baluchistan in 1920-21 and the Famine which occurred in 1937-to 1939 in Rajputana, Central India etc.

The disastrous famine of 1876-1878 forced the Government of India to appoint the Famine Commission in 1880 which issued its report and for the first time layed down definite and authoritative principle for a clear recognition of state responsibility for the systematic administration of famines with the aid of codes suitable to the circumstances of each province and for a radical change in financial policy.

The big famine of 1860 in N. W. Provinces, Punjab and Rajputana forced the Government to realise the need of relief and the policy of indifference changed to that of active help and protection. The Orissa famine of 1865 affected 5 crores of people and was responsible for a heavy mortality of 10 lakhs. This led to an inquiry and the Government announced their definite policy to save life at any cost. In Bihar famine 1873. the Government doled out indiscriminate charity and the cost of relief was excessive. The Great South India Famine of 1876-78 was responsible for huge mortality of over 52 lakhs. This led to the appointment of the First Famine Commission. The extravagance of the Bihar Famine cautioned the Government to adopt economy and efficiency as its goal of famine relief and the principle of saving life at any cost was given up. A sum of 8½ crores was spent to give relief

but the loss of human life was huge. This marked the dividing line so far as the organisation of famine relief was concerned.

According to the recommendations of the Famine-Commission (1880) the Government gave up the policy of *laissez faire* and a Famine Insurance Fund was created. Famine codes were drawn up which with necessary modifications form the basis of the modern famine relief organisation.

The Government of India introduced in a Famine Relief Insurance Grant by which a sum of Rs. $1\frac{1}{2}$ crores was provided in the annual budget of the Government of India to be spent on direct relief if there was a famine, and on the construction of public works of a protective nature if the year was normal. The extension of communications by developing roads and railways, was made possible. The principles of Famine relief were clearly defined so as to provide work to the able-bodied at a wage sufficient to secure health, but no ordinary comforts and gratuitous relief to the infirm in their own villages or poor houses. The Land-owning classes were to be assisted by granting Takkavi Loans and the land revenue was to be suspended and partly remitted. Famine codes embodying these principles were made for every province.

Then came the great famine of 1896-97 which affected 307,000 sq. miles and $69\frac{1}{2}$ million people. Its severity had been increased by an absence of any reserves with the cultivators on account of frequent draughts and their power of resistance had been lowered. The number relieved were more than 4 million at a cost of Rs. $7\frac{1}{2}$ crores over and above this the revenue remitted was Rs. $1\frac{1}{4}$ crores, loans given amounted to Rs. $1\frac{3}{4}$ crores and charitable relief from private sources amounted to Rs. $1\frac{3}{4}$

crores. This led to the appointment of the second Famine Commission under the chairmanship of Lyall. The Lyall Commission made certain recommendations for the relief of special classes like weavers and hill-tribes, proposed rules for the management of charitable funds, advocated a freer grant of gratuitous relief in villages, but disapproved of the extension of decentralised relief works.

But before these recommendations could be considered by the Government another famine of unparalleled severity occurred in 1899-1900 on account of total failure of rains over a large area. It affected 475,000 sq. miles and nearly 60 million people in U.P., Berar, Bombay, Ajmer, Punjab, Rajputana, Baroda, Central India, Hyderabad and Kathiawar. The rainfall over the whole country was 11 inches below the mean, there was an acute famine of fodder and it led to terrible mortality among the cattle. In this famine another complicated problem of migrated marwaris to the neighbouring British territories arose and the Native states were also asked to share the responsibility of protecting life during famines in their respective territories. Another important feature of this famine was the flocking of people in very large numbers to the relief works. Railways transported $2\frac{1}{2}$ million tons of grain to the famine stricken areas and for weeks together 6 million people were in receipt of relief. The difficulty of carrying fodder by railways caused a very heavy mortality among the cattle.

The famine of 1900 led to the appointment of the last famine Commission in 1901 under Sir Antony Macdonell which evolved the doctrine of putting heart into the people, or "moral strategy." In brief the doctrine is as follows:—As soon as the danger is scented people

must be helped by means of loans and other means. Takkavi should be promptly and liberally distributed, land revenue should be suspended at an early stage, a policy of prudent boldness should be adopted involving the preparation of a large and elastic plan of relief, constant vigilance and full enlistment of non-official help should be ensured. The Commission also laid emphasis on the need of devising measures for tackling the shortage of fodder and protecting cattle population. It also recommended the starting of co-operative credit societies and extension of protective irrigation works. This Commission also introduced payments by results in the famine relief organisation.

The Government was universally accused in India for these famines and was held responsible for them. It was argued that the land revenue policy, the drain of wealth from India was responsible for these famines. The Government thereafter changed the policy. Government took active interest in agriculture development, development in irrigation systems, *i.e.* canals, tanks and wells, railway development, industrial development and introducing better seeds and scientific method of agriculture. A large number of co-operative credit societies were started. All these improvements led to the increased power of resistance among the people. This is proved by the fact that in latter famines people were in a position to withstand the famine much better. In 1907 and 1908 a famine occurred in U.P. affecting 50 million people and involving failure of food supply for 9 months. But the loss and suffering were small and comparatively few people flocked to the relief works. The same was the case with Bombay and Gujerat famine of 1911 and again with the U. P. famines of 1913-14 and 1918. In the latter case "rains failed more seriously and over a wider

area than during any monsoon season in the recent history of India. Yet the resisting power of the people had developed to such an extent that not more than 6 lakhs were getting state help at any time. In all these famines Takkavi loans alternative employment provided by industries and public works, the increased mobility of labourers and unemployed villagers due to railway development, development of irrigation facilities, encouragement given by co-operative societies, to self-help and thrift rise of wages etc., increased the resisting power of the masses. And the suffering caused by these visitations has been much less. This fact was more effectively demonstrated in the famine of 1920-21 which affected Madras, Baluchistan, Bombay, C. P. parts of Bengal, C. I. and Punjab. Though the population affected was 45 million souls but the number of people on relief was much less than 3% of the total population affected.

With increased mobility of people, due to rail and road development, with great demand of labour in factories, mines, plantations, workshops, public works, and with extensive irrigation facilities it is expected that famines will not recur again with such devastating effects. And with agricultural development and industrialisation of the country on a planned basis famines may disappear totally. In fact this has been the experience of all the countries of the world. After industrialisation famines disappeared in France, England and other countries. In fact the poverty of the masses and the economic backwardness of the country is responsible for the severity of these famines in India.

Change in the character of famines: But now the character of famines has changed which are no more famines of food as they happened to be in the past. Formerly famines played havoc with the population.

Acute shortage of food caused deaths from starvation and the food was not available at any price. The special Commission of 1867 defined famine as suffering and death from hunger on the part of large number of population. But this is no more the case now. This change has been brought about by two important factors. Firstly the improvement in the means of communication and transportation makes good the deficiency of food in one part of the country by drawing upon the abundance in other parts. Because the monsoon may fail in one part of the country, it is very rarely that this is not balanced by exceptionally good rainfall in some other part of the country. Thus if there is a famine in one part there are usually bountiful crops in others and with the development of the means of transportation and communication the surplus of other parts can be transported to the famine-stricken area. This is why we have no such thing as food famine now. Before railway development in India movement of grains was a very serious and difficult job from long distances. Because much of the food was consumed by the cartman and the cattle on the way. Secondly the famine relief organisation has been gradually perfected and the power of resistance has increased among the people.

Famine now means a prolonged period of unemployment, accompanied by dear food, and this is no doubt an economic calamity which inflicts a great hardship on the people. The suspension of agricultural industry is a great economic catastrophe but it is no longer a desolating calamity which swept away whole villages, depopulated districts and transformed the face of the country. Now when the monsoon fails, nature pronounces a lock-out in agricultural industry that throws 70 per cent. of the population out of work for almost a year. Since modern famines are not food famines; but money famines,

what the state is called upon to do is to provide work and wages on an adequate scale. At present a famine is more or less a temporary dislocation of employment due to the failure of crops. It is in very remote, undeveloped, hilly and desert tracts that it may even now mean food famine and starvation. Famine relief therefore means providing employment to those who have been thrown out of employment by the vagary of nature. At present when famine occurs Government open relief works on which practically every one who seeks employment gets it and is able to earn enough wages to maintain him.

Causes of famines :—The causes of famines may be divided into (1) primary and (2) secondary. As to the primary causes, draughts, floods, locusts, and other kinds of insect pests and a various kinds of fungi are responsible for the failure of crops. But deficiency or total failure of rains is the most important cause. The damage done to crops by floods, locusts and pests; though at times very serious, can be repaired with comparative ease. Secondary though equally important causes are those which are responsible for the grinding poverty of the masses and their consequent inability to face the slightest disturbance of their normal economic life. Economic exploitation of the masses by an alien Government, backwardness of agriculture, decline of cottage and rural industries, slow development of modern industries, rural indebtedness, extravagant expenditure on social ceremonies, litigation and ever-increasing subdivision and fragmentation of land holdings are responsible for the poverty of the masses.

Remedies :—As far as the primary causes are concerned it would be of great help if the probable character of the coming monsoon could be foretold so that the people and state may be warned beforehand and they may

prepare themselves for the eventuality. Scientific methods should be found out to fight the locust insects, pests and fungi, the great enemy of crops and those methods must be taught to the cultivator. In order to secure this help for the peasant the Meteorological Department has been established which keeps a regular record of the weather conditions prevailing in the country and makes forecasts about the coming monsoon. Government mycologists and other scientific experts are engaged in carrying on research work and evolving methods of fighting the enemies of crops, *i.e.*, locusts, insects and pests etc. But much has to be done in this direction.

The secondary cause that is poverty of masses is itself the outcome of many other economic causes and it is the fundamental and all engrossing problem which India is facing. The solution of this tremendous problem involves the adoption an all-round programme of economic regeneration and this is only possible when there is a truly National Government established in India.

Famine Relief Fund :—For the first time in 1874 Lord Northbrook recognised that famines were not exceptional and abnormal calamities, and therefore, the financial obligation they involved should be one of the ordinary charges of the state. Thereupon his proposal to institute a famine insurance fund was accepted in 1877-78 and a famine insurance grant of rupees one and a half crores per annum was provided in the budget from that year onwards. The Government of India used to allot funds out of this grant to the different Provinces according to their needs. The grant was to be applied in the first place, to direct relief, and secondly to the reduction of debt or its prevention. The scheme was subsequently modified to include the construction of protective railways and canals. Upto 1907 famine expenditure was

wholly a Provincial charge, the Central Government helping only in the last resort. This was modified in that year and the Government of India now placed to the credit of each Province exposed to famine a fixed amount on which it could draw in case of need. When the fund was exhausted, further expenditure was to be shared equally by the Provincial and Central Government. In 1917 this arrangement was further modified by dividing famine expenditure between Central Government and Provincial Governments in the ratio of 2 to 1. But after the financial decentralisation that followed the Reforms of 1919 each Province was required to provide for its own famine insurance out of its revenues annually.

According to the present arrangements, famine expenditure is entirely a provincial charge. Every province has to contribute towards its famine relief fund a fixed sum in proportion to its liability of famine, which is no more named as Famine Insurance Fund and the main object of this Famine Relief Fund is to finance famine relief proper. The help of the Central Government if needed is given in the form of a loan on which the Provincial Governments are to pay interest. This annual sum kept apart from yearly revenues for famine relief fund can be spent only on famine relief and the sum unutilised is carried to a permanent Famine Relief Fund which is invested with the Central Government and is available for expenditure on famine, and under certain restrictions on protective and other works for relief of famines.

Besides Famine Relief Fund there is the Indian Peoples' Famine Trust. It originated with donation of Rs. 16 lakhs made by the Maharaja of Jaipur in 1900 to be held in trust in times of general distress. It has gradually increased and the income of which is administered by a Committee of 13 members representing different provinces

and States with the Indian Auditor General as its secretary. The principal is never spent only the interest is spent on relief of famine or distress and the unspent balance is temporarily in Government securities.

Outside the Government machinery there has always been a large scale of private philanthropy displayed by well-to-do and rich men in India. Supply of clothes, food, money, to the needy and help in the rehabilitation of agricultural life after the famine is over has been very much marked in India. This help also came from people of foreign countries specially U.S.A. and U.K. In the recent famines, earthquakes and other distresses caused by the vagaries of the nature—National Congress (as the most important and powerful non-official organisation) has played a very useful part in relieving the distress of the poor.

Famine Relief Measures :—Famine Relief is carried on in an elaborate manner and the whole system is reduced to a science. It is embodied into the famous famine codes the most important of which are economy and generosity, labour tests, poor houses, village gratuitous relief and moral strategy. Besides the gradual perfection of the famine relief organisation and machinery famine protection has also been developed by the construction of railways and canals on both productive and protective principles. Below a brief description is given how the famine relief is organised.

(1) Standing preparations are made on a large scale. Valuable information is gathered about climatic conditions, crops and prices, births and deaths. Government is kept informed of the meteorological conditions and the state of crops. Programmes of suitable relief works such as roads, tanks, bridges, canals, railways and other public works etc. are kept ready and brought up-to-date, the country is mapped out into relief circles, and reserves

of tools and plants are stocked. (2) When rains fail a close watch is kept in that area on the appearance of danger signals of famine, such as abnormal rise in prices, great restlessness among people, their aimless wandering and great movement of people from one place to another in groups, contraction of private charity, and increase in crimes specially petty thefts. As soon as these danger signals appear it is assumed that famine is approaching and whole relief machinery is kept in a condition of perfect preparedness. (3) The Government then takes preliminary step and declare their general policy as based on 'moral-strategy'. Meetings are called at which Government policy of relief is explained to the people, non-official help is enlisted, suspension of land revenue is declared, and loans for agricultural purposes are generously made, village inspection begins, and preliminary lists of helpless persons are made. (4) Then the "test works" are opened and if considerable number of people flock to those test works to seek employment and even those who in normal times do not offer their labour for hire flock to these test works it is assumed that famine has established itself upon that area. As soon as this is established the area is declared to be a famine district and the test works are converted into relief works and more relief works are started. Export of food grains and fodder from that area is prohibited, cheap grain and fodder shops are opened. Private business men are encouraged to import food grains by giving them railway facilities, etc. Relief works are run on a famine code principles. (5) The next stage comes a little later, when central relief camps are organised and gratuitous relief is given to the infirm in the villages. Poor-houses are opened in towns, and village kitchens are run for the benefit of the children. The distress reaches its climax in May

with the setting in of hot summer when there is fear of outbreak of cholera. (6) The last stage begins with the coming of the monsoon. The large relief works are closed down and people are moved in batches to smaller relief works near their villages so as to prevent the spread of epidemics and to facilitate the restoration of normal agricultural activities without further delay. Gratuitous relief is extended and liberal loans are doled out to the cultivators for purchasing cattle, seed, ploughs etc., when the principal rabi crop is harvested all remaining relief works are closed, gratuitous relief is stopped and the area is declared out of famine. All restrictions imposed are lifted. All this time the medical department is ready to deal with any epidemic or disease which generally appear at the outbreak of the monsoon.

Ultimate causes and remedies:—Really speaking the grinding poverty of Indian masses is the ultimate and final cause of famines and distresses and therefore any step which will remove the poverty of Indian masses can only be a permanent and final remedy against famines. Excessive dependence of such a huge population on agriculture which is itself an uncertain industry. The increasing pressure of population on the land, moribund and decaying condition of cottage industries, and backward agriculture mean low income and low productivity. Therefore rapid and planned industrialisation of the country can be the only permanent solution of this periodic visitation of distress and suffering. The suffering has been reduced to a considerable extent by developing rail road transportation and constructing irrigation projects and by adopting an elaborate famine relief scheme. But the suffering cannot be totally eliminated unless the economic condition of the masses is improved. These are more or less effective and powerful palliatives which have succeeded in

saving human life (not the animal life which die in large numbers due to shortage of fodder in famine days) from death due to hunger but which can never save the population from incalculable hardship and privation caused by the failure of national industry that is agriculture. Therefore the only permanent cure of this evil is rapid industrialisation of the country.

CHAPTER XV.

THE STATE AND AGRICULTURE.

Laissez-faire policy has long been abandoned by almost all the countries of the world. The State is no more indifferent towards the economic activities of the people. Because the Industrial Revolution brought in its train revolutionary changes in the economic life of the people, and the economic problems created by these changes could not be solved by individual alone without the intervention of the State. There is the other extreme of spoon-feeding, the economic activities of people called the paternal theory of the state. Too much interference of the State and spoon-feeding kills the initiative of the people and therefore in most of the countries state adopts an attitude between these two theories. The State helps the economic activities of the people whenever help is needed in order to promote the economic interests of the country.

In India the State has been very lukewarm towards the economic interests of the country and therefore very little was done in the beginning to advance the economic interests of the country. But as far as agriculture was concerned the Government of India was not so indifferent towards it because the raw materials produced by India were badly needed by the British industries, and therefore as early as 1884 the Government established a Department for improving agriculture. This Department however could not do much on account of the following reasons:—

- (1) The Department was not provided with sufficient funds.

- (2) The Department was saddled with functions like land records and land registration which had nothing to do with agriculture improvement.
- (3) The Government was not very definite about the policy which it should have adopted towards agriculture in India. In 1892 an Agricultural chemist was appointed. In 1901 an Inspector General of Agriculture was appointed to direct the agricultural policy of the Central and Provincial Governments. This office was abolished in 1912 and its duties were handed over to the Director of Agriculture Research Institute at Pusa who acted as Agricultural Adviser to the Government of India upto 1929.

The Pusa Institute was established out of the funds which Henry Phipps, an American, placed at the disposal of Government of India to be utilised for the agricultural advancement of India. The Pusa Agricultural Research Institute did very good work, in evolving improved varieties of seeds and in carrying on research on certain other agricultural problems.

It was Lord Curzon who showed great interest in Indian Agriculture and it was due to him that the Agricultural Departments progressed. He provided larger grants to the Department with a view to promote agricultural research and instruction of the farmer through practical demonstration. He also relieved the Departments of the extra-work which had been imposed upon them in connection with land records and land registration. The Government, during this period established several Agricultural colleges at Poona, Cawnpore, Layallpur, Coimbatore, Mandalay,

and Nagpur. These colleges were established to impart agricultural education to the young men in the country. In 1905 The All India Board of Agriculture was formed to co-ordinate the Provincial Departments of Agriculture. The Board has acted as a platform for the exchange of views of the Provincial Departments with regard to major agricultural problems.

Since 1921 agriculture came under the control of Provincial Ministers. The Provincial Ministers paid greater attention towards agricultural improvement and this is why since then a rapid progress has been noticed in the working of these departments in the Provinces. The Central Department of Agriculture now deals with problems which are of all India importance. The Central Department maintains the following bodies for improving agricultural conditions in India :—

- (1) The Agricultural Research Institute which has been shifted to New Delhi in 1936.
- (2) The Imperial Cane Breeding Station at Coimbatore.
- (3) The Sugar Bureau which was at Pusa but has since 1931 been transferred to Cawnpore. A Sugar Technologist is the head of the institution.
- (4) The Imperial Institute of Veterinary Research at Muktesar and its branch at Bareilly have developed into very useful organisations for fighting cattle diseases through the manufacture of serum and vaccines.
- (5) The Imperial Institute of Animal Husbandry and Dairying at Bangalore and Wellington.
- (6) The Creamery at Anand.
- (7) The Imperial Cattle Breeding farm at Karnal.

These Institutes are doing really very useful work in connection with agricultural development and achieved great success in their efforts. In fact they are putting new life in Indian Agriculture.

In 1934 an Agricultural Marketing Adviser to the Government of India has been appointed with a view to tackle all-India marketing problems relating to Agricultural produce. Under his guidance marketing surveys are being carried on and grading stations are being established. In due course of time the marketing of agricultural produce will be carried on in wholesome conditions and that will go a long way to make agriculture prosperous.

Coming to the Provincial Agricultural Departments we find that they conduct experiments and research in farms and laboratories and try to initiate the farmer in to scientific methods of agriculture by carrying on intensive propaganda. The Provincial Departments also carry on propaganda in favour of new and improved implements, new manure, and improved seeds. In order to carry on such propaganda demonstrations and exhibitions are organised to convince the farmer. Government agricultural farms have been set up in large number to demonstrate the utility and effectiveness of the new methods advocated by the agricultural department. At times demonstration of new methods are carried on the plots of the cultivators themselves to instruct them as to how scientific agriculture can be carried on by the farmer under village surroundings. The Provincial Agricultural Departments have also done valuable research work regarding soil problems, manure, and crop diseases.

State aid to agriculture has also come through progressive land and enlightened land-policy adopted by

the popular ministries in 1937 and 1938. Security has been conferred on the farmers and their rights have been protected.

Provincial Governments of late have done much to give an impetus to rural development work in their respective provinces which will also help the agriculture in many directions.

The State has also shown a keen interest in co-operation and marketing schemes and has helped the co-operative movement to a very great extent.

The achievement of State in providing agricultural education are also notable. As mentioned above several Agricultural colleges have been established to train the officers of the Agricultural Departments. Agricultural middle schools have been started to train the farmers and their sons in improved agricultural methods. Steps are being taken to start primary and middle schools with an agricultural bias. Universities are also being persuaded to impart agricultural training and to introduce Agricultural Economics as an independent subject.

No discussion of State policy in regard to agriculture can be complete without a mention of the Imperial Council of Agricultural Research which was created in 1929 on the recommendation of the Royal Commission on agriculture. The object of this body is to encourage, direct, and co-ordinate all branches of agricultural research work. The Central Provincial Departments of Agriculture look to this organisation for help and guidance. It also acts as a central organisation for the dis-semination of information in regard to veterinary and agricultural matters. Apart from doing all this, the Council serves the important purpose of bringing research work

in India in co-relation with research work in other parts of the world. The Government of India gives an annual grant of 7.25 lakhs of rupees to the Council.

Besides these bodies in many provinces the Provincial Boards of Economic Enquiry have been started with a view to agricultural improvement. In Punjab there is such a board in operation since 1919. The Board has provided a mass of important data relating to agriculture which can conveniently be the basis of future research and improvement. There are also such Boards in Bengal and U.P.

The tariff policy of the Government has also been framed with a view to benefit Indian agriculture. The Indian wheat grower has been protected from the aggressive competition of Australian wheat through the wheat import duty Act of 1931. The Sugar industry has also been protected and in order to protect the cultivators' interests further the State fixes the price of sugar-cane in every season. Moreover in U.P. and Bihar the Provincial Governments have taken up schemes of cane development. Cane Development Officers have been appointed and a great drive has been made towards cane development. Thousands of cane growers co-operative societies have been organised to sell the sugar-cane of the cultivators and nearly 80 per cent. of the sugar-cane crushed by the factories in these provinces is supplied by them. In 1935 a duty was imposed on the import of broken rice which threatened to affect greatly the Indian rice-grower.

Besides these activities the State also passed certain agriculturists debt relief acts and consolidation of land holdings acts. All of these have gone a long way to assist the agriculture industry.

But unless there is a definite plan and the agricultural policy of the state is based upon it agriculture cannot be made prosperous and profitable. One thing about which the Government has shown criminal neglect is the backward state of rural transportation and communication and marketing. Unless this is changed for the better agriculture cannot develop.